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ARIZONA CORPORATION COMMISSION

MEMORANDUM

1999 AUG 25 P 3: 26

TO: All Parties on the 271 Service List
FROM: *David A. Motycka*
David A. Motycka
Acting Assistant Director
Utilities Division

AZ CORP COMMISSION
DOCUMENT CONTROL

DATE: August 25, 1999

SUBJECT: Agenda for First Workshop on U S WEST's Operational Support Systems

The first workshop on U S WEST's Operational Support Systems ("OSS") will be held on September 9, 1999, in Hearing Room 1 of the Commission. Attached is the agenda for the first workshop. Also attached is a copy of a proposed Master Test Plan developed by the Commission Staff's consultants. The Commission Staff's consultants will be giving an overview of the Master Plan at the first workshop on September 9, 1999.

Staff requests that parties serve copies of their written Statements of Position on all parties by September 3, 1999 and have copies available at the first workshop for any other interested parties. Those parties that desire to make oral presentations at the first workshop on their Statements of Position should contact Mark DiNunzio by September 3, 1999 at (602) 542-6935.

Staff has scheduled the second workshop for September 20, 1999 in Hearing Room 1 of the Commission to commence at 9:00 a.m. The third and final workshop will be held on September 30, 1999 in Hearing Room 1, also commencing at 9:00 a.m. Agendas for the second and third workshops will be circulated in the near future. Staff anticipates that the second workshop will be devoted to a discussion of proposed performance measurements and the test plan. Staff tentatively plans to use the third workshop to finalize the test plan and discuss a process for proceeding with third-party testing of U S WEST's OSS. Parties should submit written comment on the proposed performance measurements and test plan on or before September 13, 1999.

If you have any questions regarding the workshop process outlined in this letter or the attached agenda, please do not hesitate to call me at (602) 542-0748 or Maureen Scott of the Legal Division at (602) 542-6022.

DAM:mi
Attachment

Arizona Corporation Commission

DOCKETED

AUG 25 1999

DOCKETED BY	<i>[Signature]</i>
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U S WEST Section 271 OSS Workshop Agenda September 9, 1999

9:00-9:15	Introduction Overview of Workshop Process
9:15-9:45	OSS – Overview
10:00-10:30	U S WEST Statement of Position on OSS
10:30-11:00	Break
11:00-12:30	CLEC's Statements of Position on OSS Requirements
12:30-1:30	Lunch
1:30-2:00	Status Report on OSS Testing in Other States
2:00-2:30	OSS Measurements
2:30-3:00	Commission Staff Consultant's Overview of Master Test Plan
3:00-3:15	Break
3:15-5:00	Discussion of Master Test Plan

MASTER PLAN FOR TESTING
U S WEST's OPERATIONAL SUPPORT SYSTEMS
IN ARIZONA

ARIZONA CORPORATION
COMMISSION

PREPARED BY:
DOHERTY & COMPANY, INC.

ATLANTA

LOS ANGELES

SAN FRANCISCO

BURLINGTON, VERMONT

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1. Executive Overview

U S WEST Communications, Inc. (U S WEST) has filed a notice with the Arizona Corporation Commission (ACC) indicating that it will file an application with the Federal Communications Commission (FCC), pursuant to Section 271 of the Telecommunications Act of 1996, to provide interLATA telecommunications services that originate in Arizona. The FCC has indicated that for U S WEST to obtain 271 relief, it must demonstrate that it provides to Competitive Local Exchange Carriers (CLECs) non-discriminatory access to its Operational Support Systems (OSS) and that its systems are operationally ready and capable of handling reasonably foreseeable demand, with CLEC input.

The Arizona Corporation Commission issued a Procedural Order June 8, 1999 in Docket No. T-00000A-97-0238 continuing the on-going procedure schedule, on the basis that there was a need for clarification of OSS (performance) standards before determining if U S WEST meets these standards.

On the basis of responses to the June 8, 1999 order, a proposed order was issued on July 2, 1999 calling for three workshops to facilitate a collaborative process to determine standards to satisfy OSS requirements, including a (comprehensive), third party Test of U S WEST's OSS.

The ACC had previously retained Doherty and Company, Inc. (DCI) to assist Commission Staff in evaluating the access that U S WEST provides to its OSS. The initial scope of work included a limited test of the functionality of U S WEST's OSS; it did not include a capacity test. On the basis of the July 2, 1999 order the ACC expanded DCI's scope of work, to include preparation of a proposed Master OSS Test Plan, to be based on the recently implemented Texas Test program at SBC. The Master Test Plan, when approved by the ACC will be distributed to all participants in the Arizona 271 proceeding. Participant comments and suggestions concerning the Master Test Plan will define the agenda for the first of the three workshops to be conducted. Through these workshops the Test Plan and Test Plan process will be amended, based on CLEC inputs.

Following the first workshop, a Request For Proposal for conducting the Third Party Test will be issued. The successful bidder will lead the final development of the Master Test Plan.

The overall purpose of the collaborative test process, to be validated by an independent third party retained by the ACC, is to demonstrate for the ACC, the FCC and the Department of Justice (DOJ) the extent of operational readiness, performance, and capability of U S WEST to provide CLECs with access to OSS for pre-ordering, ordering, provisioning, repair and maintenance, and billing. This collaborative

approach will enable the CLECs to identify their specific testing needs and concerns, and provide them an opportunity to offer significant input to the test.

The test will include an assessment of the functionality and capacity of U S WEST's OSS. The test will be conducted primarily in a production environment in addition to normal retail and CLEC activity. The test consists of:

- **Functionality Test** – The Functionality Test (FT) is designed to provide information that the ACC can use to address the ability of U S WEST OSS to provide operational functionality to CLECs. The test will include a test of U S WEST's processes including pre-ordering, ordering, provisioning, maintenance & repair (M&R), and billing. The test will focus on resale, UNE-C, UNE-Loop, UNE-Loop with number portability, and number portability. These tests involve the collection of data in a controlled manner pursuant to specified test procedures, using specified input data.
- **Retail Parity Evaluation** – The Parity Evaluation (PE) test is designed to provide the ACC with information with which to directly evaluate parity of U S WEST's OSS. This test is a comparison of the ability of a CLEC representative using one of U S WEST's OSS interfaces to provide an overall comparable level of service and experience to the level of service and experience that a U S WEST representative can provide using U S WEST's standard internal OSS interfaces. This test provides for comparing OSS responsiveness as well as comparing the quality of the data screens presented to the representative.
- **Capacity Test** – The Capacity Test (CT) is designed to provide information which the ACC can use to assess the capability of U S WEST's OSS to handle loads equal to or greater than those projected by the various CLEC participants for fourth quarter (4Q) 2000 operations. This test will include a review of procedures associated with computer systems scalability and staff scalability to determine, under stated assumptions, whether or not U S WEST appears capable of handling CLEC loads in the future, both projected and unexpected.
- **Change Management Test** – The Change Management (CM) test will provide information which the ACC can use to evaluate methods and procedures that U S WEST employs to communicate with CLECs regarding OSS system performance and system updates, and by which it processes changes.
- **Performance Measurement Evaluation** – Performance Measurement Evaluation (PM) is designed to provide the ACC with statistically valid assessments of the performance measures established to evaluate U S WEST performance in providing service to the CLECs. The assessment will include reviews of Performance Measurement data collection and analysis (including an evaluation of the processes and procedures that U S WEST

employs to collect data and calculate performance measurements), a performance evaluation over a three-month period specified by the ACC, Functionality and Capacity tests and PM verification.

This Master Test Plan sets forth the approach, scope and focus, timeline, roles and responsibilities, testing phases (planning, preparation, execution, and analysis/reporting), and all associated required activities for the testing of CLEC access that U S WEST provides to its OSS.

Many parties will need to cooperate regarding, and be accountable for, implementation of this test, including the Third Party Consultant, participating CLECs, the Pseudo-CLEC, the ACC, the ACC Staff, DCI, and U S WEST. U S WEST will also provide personnel to develop and execute cases on the retail side of the Retail Parity Test. The ACC and the Third Party Consultant will oversee the execution of the testing and assess its results. CLECs and U S WEST will conduct testing in a production environment as appropriate (i.e., the test participant will use production level systems for those interfaces that are connected to U S WEST's production OSS). This Master Test Plan provides a framework for the test participants to develop more detailed test plans.

2. Introduction

2.1. Purpose

The FCC has indicated that for U S WEST to obtain 271 relief, it must demonstrate that:

- It provides to CLECs non-discriminatory access to its OSS for pre-ordering, ordering, provisioning, repair and maintenance, and billing:
 - For those capabilities that have a retail analog (e.g., ordering of resale), U S WEST must provide access in substantially the same time and manner that it provides itself.
 - For those capabilities without a retail analog (e.g., ordering of unbundled network elements), U S WEST must provide access that allows an efficient competitor a meaningful opportunity to compete.
- Its systems are operationally ready and capable of handling reasonably foreseeable demand.

U S WEST's successful execution of this Third Party test plan will demonstrate to the ACC and the FCC the operational readiness, performance, and capacity of the access to OSS that U S WEST provides to CLECs.

2.2. Overall Approach

To implement this test, the ACC will retain a Third Party Consultant to validate results of testing the access to OSS that U S WEST provides to CLECs, and provide day to day supervision of the test program. The Third Party Consultant will provide a final report and recommendation to the ACC.

A Test Transaction Generator will be retained to participate in the testing as a 'Pseudo-CLEC'. The Pseudo-CLEC will develop an EDI interface to U S WEST's EDI interface for use in the testing. The Pseudo-CLEC will also develop the test transaction generator to execute test cases for both the functionality and capacity tests.

The ACC will approve the appropriate CLEC and Pseudo-CLEC involvement and participation as described herein and as developed through the workshop process.

U S WEST will be responsible for many aspects of this testing effort. For those test cases generated by participating CLECs, U S WEST will process the pre-order, order, repair and billing transactions in a production environment. Additionally, U S WEST will provide subject matter experts (SMEs) to assist in test definition, root cause analysis, and other tasks requiring in-depth knowledge of and experience with U S WEST's OSS and associated methods and procedures.

Section 9 further defines roles and responsibilities of all test participants.

The testing will include the functionality for pre-order/order, provisioning, maintenance and repair, and billing. Specific product types to be included are resale (with parity tests against the retail equivalents), UNE-C, UNE-L (with and without number portability), and number portability.

It is important for U S WEST to maintain a level of 'blindness' as the tests are formulated and executed. In general, tests will be performed by CLEC and Pseudo-CLEC test participants in a live environment. The Third Party Consultant will maintain the greatest degree of 'blindness' as practical.

Although this is an Arizona test, a mix of customers and volumes representative of the U S WEST 14 state region will be used to best demonstrate functionality and capacity of U S WEST's OSS interfaces.

2.3. Current Status

The first draft version of this Arizona Master Test Plan is based upon documentation of the testing that the Texas Commission is conducting of the access to OSS provided to CLECs by SBC. This Master Test Plan also incorporates test scenarios independently developed by DCI, information gathered from other third party testing

activities in other states (including New York and California), input from the FCC Staff, and input from the ACC Staff.

The first draft will be circulated to interested parties and reviewed in a workshop hosted by the ACC. Before and at the workshop, the ACC will solicit comments and suggestions from interested parties regarding changes to the overall testing strategy and the test plan. It is also anticipated that once the Third Party Consultant is retained, further refinements will be made to the test plan.

2.4. Document Reference

Related Document Release No.	Release Date	Document Description
	April, 1999	The Public Utility Commission of Texas Southwestern Bell (SWB) OSS Evaluation Master Test Plan
	July, 1999	The Public Utility Commission of Texas Southwestern Bell Operations Support Systems Interim Report

3. Scope

3.1. System Architecture Overview

In order to provide a common understanding of the OSS to be included in the Arizona Third Party Test, brief descriptions and schematic diagrams are provided. These include: IMA and EDI architectures for preordering, ordering and provisioning, EB-TA architecture for maintenance and repair, and CRIS architecture for billing. These will be augmented by more detailed OSS and other relevant system descriptions during the Workshops.

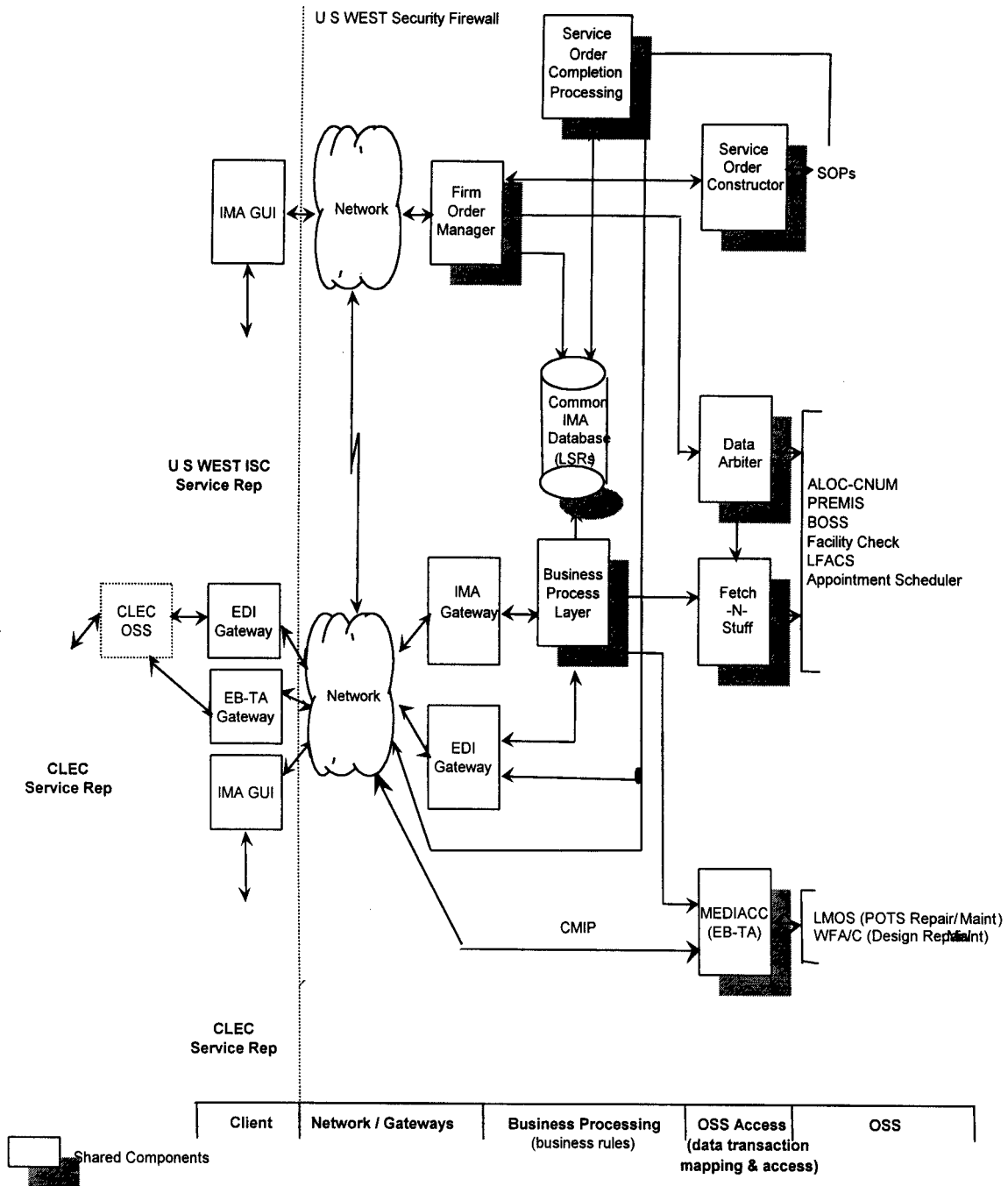
3.1.1 IMA, EDI, And EB-TA Mediated Access Architecture

For the IMA, EDI and EB-TA electronic interfaces, the diagram provided on Exhibit I depicts the mediated access architecture currently provided by U S WEST. As shown, the CLEC OSSs or workstations access the U S WEST gateways through the security firewall. They communicate with the USW human-to-computer interface and/or the computer-to-computer interfaces to transmit and receive information.

Pre-Ordering and Ordering

Once the transaction is received by the U S WEST gateway, a set of business rules is applied to determine how to process the request. To obtain information from USW's OSS or pass information to them, the OSS Access Layer (Data Arbiter, Fetch and Stuff, and MEDIACC) communicates with the downstream

Mediated Access Architecture



OSSs to send or retrieve the data. Regardless of whether a transaction is received by the U S WEST gateway through the IMA GUI or EDI, it will be processed through the same set of business rules and travel through the same OSS Access Layer to reach the downstream OSSs.

If the transaction is the submission of an LSR, the LSR is placed in the Common IMA database regardless of whether the LSR is transmitted through the IMA or the EDI gateway. This database is updated with status of the LSR as the Interconnect Service Center processes the LSR.

Maintenance and Repair

Likewise, if the transaction is a submission of a trouble report or any other trouble report request, the transaction is processed through MEDIACC and routed to the appropriate repair OSS.

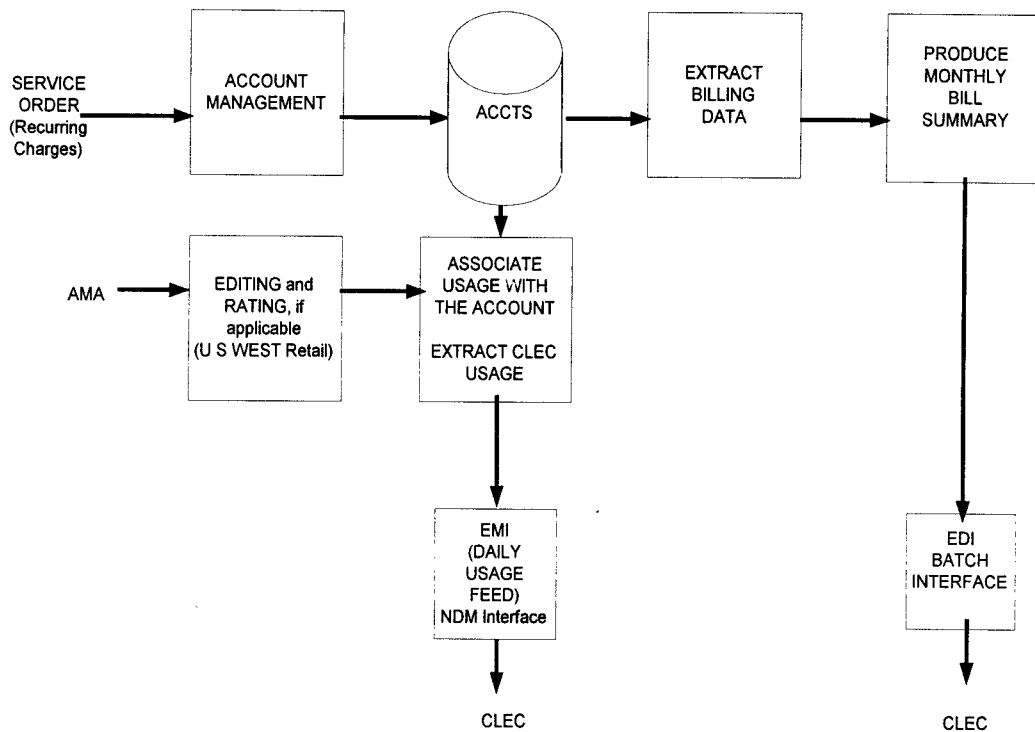
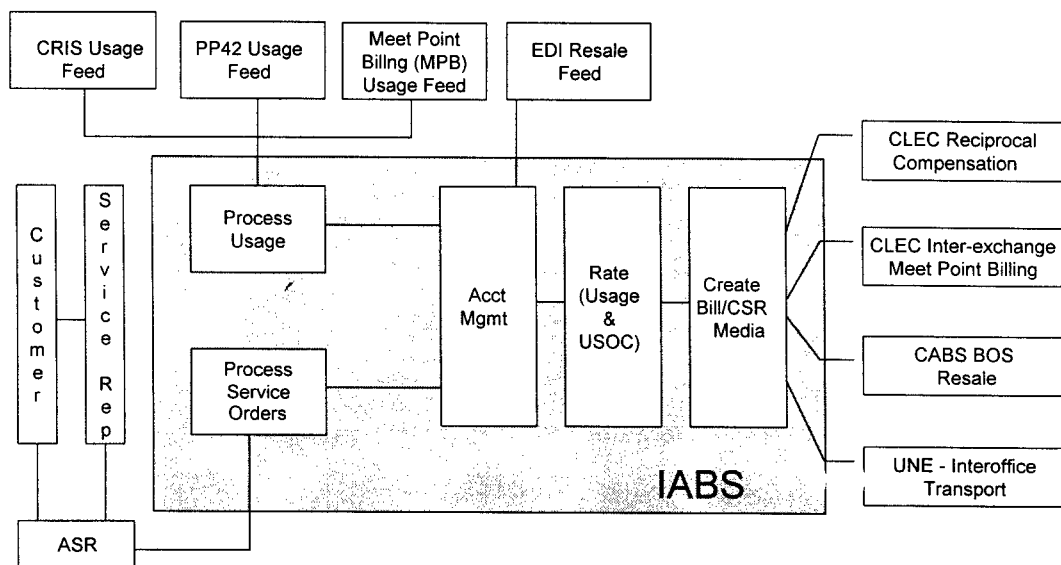
3.1.2 Billing Architectures

CRIS Architecture

For the billing interfaces, the diagram provided on Exhibit II describes the components that produce usage and monthly bill information. When an end-user customer's account is resold to a CLEC, the resulting service order updates the account to reflect that change. As the end-user customer generates toll usage, it is sent from the AMA system into the CRIS billing system, where it is associated with the CLEC's account. The toll usage is then forwarded to the CLEC in a daily usage feed file. U S WEST produces a billing summary file with all recurring and non-recurring charges and sends it to the CLEC on a monthly basis.

IABS Architecture

For the trunk-side UNEs and interconnection services, the architectural diagram shown on Exhibit II is a high level description of IABS. There are three usage feeds to the usage-processing module. Another entry point is the ASR submitted by the customer service representative. These ASRs go to the service order-processing module. Both usage and service orders are sent to the account management module to associate the usage and service order detail to accounts.

Billing Architecture**IABS Billing Architecture**

Additionally, the EDI resale file is fed to the account management module. After usage and service order details are associated to accounts, the accounts are rated, and bills and CSRs are produced. Outputs for reciprocal compensation, interexchange meet point billing, resale and UNEs are then provided to the CLECs.

3.2. Assumptions

The following assumptions have been used in documenting this ACC Master Test Plan:

- Any third party support contract costs will include hardware for the pseudo-CLEC needs of the test, processing of transactions, and cost of human resources.
- U S WEST will be responsible for the installation and cost of the necessary connectivity facilities (including T1s) up to the interconnection demarcation point with the pseudo-CLEC.
- A pseudo-CLEC test transaction generator will be established, using EDI and IMA to submit LSRs for those test scenarios where adequate CLEC coverage is not available.
- The capacity test will be conducted using data generated via the test transaction generator, and possibly CLEC transaction simulators.
- All participants will ensure the testing does not disrupt existing customer services (e.g., 911 and other major services).
- The Capacity Test and the Functionality Test will be performed independent of each other.
- CLEC participation will not impact the defined schedule.
- The required test volumes for Functionality, Retail Comparison, and Capacity Tests will be determined and documented in the final version of this Master Test Plan.
- Lines for "Friendly" accounts to be used for retail to resale conversion will be established prior to the start of the test and the initiation of transactions.

3.3. Overview of Test Types

The testing will include five types of test scenarios. Each of the five test types is outlined below, and the following document sections (4 - 8) provide further detail for each test scenario type.

3.3.1 Functionality Test

The purpose of the Functionality Test is to determine whether or not U S WEST's OSS can provide operational functionality to CLECs. The test determines if the OSS adequately perform the pre-ordering, ordering, provisioning, maintenance and repair, and billing functions for a set of predefined test scenarios. Testing will be performed with U S WEST's production OSS and processes.

The Functionality Test will focus on resale, UNE-C, UNE-loop, UNE-loop with number portability, and number portability. Both business and residential orders will be tested, and the testing will encompass new, conversion 'as is', conversion 'as specified', partial migrations, change, disconnect, cancel, suspend, and restore activities. Test cases developed for the Functionality Test will include end-to-end processing so that all functionality between pre-ordering and billing can be evaluated.

3.3.2 Retail Parity Evaluation

Much like the Functionality Test detailed above, the Retail Parity Evaluation validates system functionality. However, the primary goal of this test is to compare the CLECs ability to process LSRs and repair requests utilizing the OSS interfaces, to the U S WEST retail equivalent utilization of the systems. Specifically, the purpose of this test is to determine whether a CLEC representative, using a U S WEST OSS interface, can provide a level of service and experience that is reasonably equivalent to the level of service and experience that a U S WEST representative can provide using a U S WEST standard interface.

3.3.3 Capacity Test

The purpose of Capacity Testing is to validate that U S WEST's pre-ordering and ordering systems and processes can handle large volumes, based on forecasts of CLEC 4Q 2000 requirements. In addition, capacity testing includes a review of procedures associated with computer system scalability and staff scalability, to determine, under stated assumptions, whether or not U S WEST

appears capable of handling both projected and unexpected CLEC future demand. The Capacity Test differs from the Functionality Test, in that it is constructed of a repeatable, controlled, usually simulated test load, focused on volumes rather than on functionality. Consequently, a restricted subset of functionality will be used as the input workload to drive the systems, and large volumes of pre-order and order transactions will be evaluated, based on 4Q 2000 forecasts.

3.3.4 Change Management Test

This test is a 'process test' to ensure that U S WEST's system and/or process change control methods are appropriately handled and effectively communicated to CLECs, based on the defined change control procedures. This test focuses on the procedures U S WEST uses to interact with CLECs.

To best demonstrate this ability, a new release of software may be introduced during the test period. During the new release, U S WEST's ability to successfully notify and support affected CLECs will be evaluated.

In addition, U S WEST's overall interaction with CLECs concerning OSS will be evaluated. This includes U S WEST's programs for providing systems information, system training, and system problem identification and resolution.

3.3.5 Performance Measurement Evaluation

Performance Measurements Evaluation is a statistically valid assessment of the performance measures established to evaluation U S WEST performance in providing service to the CLECs.

The purpose of the Performance Measures Evaluation is to verify that U S WEST is properly collecting and using data when computing the results of performance measures. The evaluation will consist of:

- Reviewing the processes in place for collecting data; and
- Computing the results of performance measures and evaluating performance measure data for a three-month period to determine if U S WEST is properly computing results.
- Verifying Functionality and Capacity test Performance Measurement.

3.4. Product Types/Order Types

The testing will cover the various order types associated with the three modes of CLEC entry: resale, unbundled network elements, and number portability. Testing

will include both residence and business orders and will encompass new, conversion “as is”, conversion “as specified”, partial migrations, change, supplementals, disconnect, cancel, suspend, and restore order types, as relevant to the specific product scenario being tested.

U S WEST’s OSS systems will generate acknowledgments, error rejections, Firm Order Confirmations (FOCs), Service Order Completions (SOCs) and manual jeopardy notifications to the CLECs as relevant to the specific product scenario being tested.

Electronic gateways considered within the scope of this testing are IMA and EDI for pre-order and order, EB-TA and IMA for maintenance and repair and, EMI and EDI for billing. These electronic gateways are the means in which CLECs access U S WEST’s OSS systems.

The following product types will be processed via the electronic gateways:

- Resale – At a high level, the test scenarios to be included in the resale test are:
 - Retail to Resale Conversion – U S WEST customer converts to CLEC;
 - Resale – New connect of a CLEC customer;
 - Resale – Change features of an existing CLEC customer;
 - Resale – Disconnect a CLEC customer; and
 - Suspend and Restore - CLEC initiates a request to suspend a customer's service and may later initiate a request to restore service.
- Unbundled Network Elements –At a high level, the test scenarios to be included in this test for UNE-C and UNE-L orders are:
 - Retail to UNE-C Conversion - U S WEST customer converts to CLEC;
 - Retail to UNE-L - U S WEST customer converts to CLEC, where unbundled loop is leased from U S WEST by CLEC;
 - Retail to UNE-L with Number Portability - U S WEST customer converts to CLEC, where unbundled loop with number portability is leased from U S WEST by CLEC;

- UNE-L New - End user establishes new service (i.e., UNE-L) with CLEC;
- Retail to Number Portability - U S WEST customer converts to a CLEC keeping the same TN but using only CLEC facilities;
- UNE-C Change - Request to change a feature;
- UNE-C Disconnect - Service is disconnected from the end-user;
- UNE-L Disconnect - Service is disconnected from the end-user; and
- Number Portability - The ability of the CLEC to migrate the customer's service while allowing the customer to retain the existing telephone number.

The following sections will further detail how these order types and product types will be tested.

The following functionalities are not included in the requirements for the test:

Order Type/ Product	Included in AZ	Included in TX	Reason for <u>AZ exclusion</u>
1. Private Line	No	No	Manual Process
2. ISDN	No	No	Manual Process
3. PBX	No	No	Manual Process
4. Centrex	No	No	Manual Process
5. INP	No	Yes	No INP in AZ
6. Switch Port	No	No	No AZ demand
7. M&R for design services	No	No	No AZ demand
8. ADSL	No	Yes	Will be available with release 5.0 (Year 2000)
9. Circular Hunt	No	Yes	Will be available with release 5.0 (Year 2000)
10. EAS	No	Yes	Not applicable in Arizona

4. Functionality Test

4.1 Functionality Test Purpose

The purpose of the Functionality Test (FT) is to provide information that the ACC can use to assess the ability of U S WEST systems to provide the requisite functionality to CLECs. These functions include:

- Pre-ordering
- Ordering
- Provisioning

- Maintenance & Repair (M&R)
- Billing
- Special functions, such as 911 and DA

The first principal objective of the FT is to verify the ability of the CLEC participants or the Pseudo-CLEC to submit Local Service Requests (LSRs) to the U S WEST OSS. This includes the ability to track the progress of the LSRs through those systems, and to observe final order completion, verify the establishment of billing records, and verify the accuracy of those records against known usage.

The second principal objective of the FT is to validate the ability of a CLEC participant to access M&R systems. Relevant aspects of this access include the ability to:

- Determine whether these systems will generate a timely and correct trouble report
- Determine whether U S WEST will notify the CLEC of successful restoration of service after the service fault was identified and corrected.
- Determine if a participant CLEC can obtain an MLT test for a reported trouble

The FT is also intended to address certain special subjects, including the 911/E911 and Directory Assistance databases.

4.2 Functionality Test Scope

The Functionality Test will include a defined number of inputs and a specific set of scenarios. These scenarios cover the order types and product types detailed in Section 3 and in Appendix A¹. The set of scenarios will be enhanced with CLEC input through workshop participation. The Third Party Consultant will analyze these scenarios, and determine the proper mix of orders and the number of iterations required for loading and for statistical validity. These scenarios will be submitted to U S WEST via prescribed electronic methods, as proposed below.

¹ Appendix A is a detailed listing of the test scenarios for the Functionality Test and the Retail Parity Evaluation. Scenarios 1 to 126 are the scenarios for the Functionality Test, and scenarios 127 to 165 are the scenarios for the Retail Parity Test. The chart lists each scenario by order type, and it also includes columns indicating the details of the scenario (e.g. the features involved, listing information), and explanation of the directory listings for the scenario, and an indication of whether or not a maintenance and repair test will be included in the scenario.

4.2.1 Pre-Order/Order/Provisioning Interfaces

Pre-ordering/ordering is the process that allows CLECs the ability to query U S WEST's databases to verify or obtain certain information necessary to issue a valid LSR. Provisioning consists of the processes by which the CLEC LSR is submitted to U S WEST for processing.

The pre-order, order, and provisioning functionality test will involve the following interfaces:

EDI: Utilizing a third-party-developed test transaction generator to test the EDI pre-order/order interface; and

IMA GUI: Using a combination of third-party-developed test transaction generator data and CLEC-supplied data for the IMA GUI pre-order/order test.

4.2.2 Maintenance and Repair Interfaces

Maintenance and Repair (M&R) is the ability for CLECs to report trouble to U S WEST, test the trouble by MLT, and check the status of the reported trouble. Any trouble that is related to the test scenarios and occurs within the test interval will be considered part of the test.

The Maintenance and Repair Functionality Test will involve the following interfaces:

EB-TA: Collaboration with one or more CLECs to test the existing EB-TA interface for maintenance and repair test transactions.

IMA GUI: Using test transaction generator data for maintenance and repair test transactions.

4.2.3 Billing Interfaces

Billing is the ability of U S WEST to provide CLECs with accurate wholesale bills and usage data, as well as records, for the services, features, network elements (e.g., loop, port) and functions that were ordered and provisioned. The primary focus for testing the billing interfaces is to validate the ability of the billing systems to receive input in a timely manner and to process bills accurately.

The Billing Functional Test will involve the following interfaces:

- EMI: (Exchange Message Interface) – This is an ATIS standard format of messages used for the interchange of telecommunications message information among telephone companies. Telephone companies use EMI to charge billable, non-billable, sample, settlement, and study data.
- EDI: (Electronic Data Interchange) –This standard allows for the transmission of billing data between trading partners. EDI software translates fixed field or “flat” files that are extracted from applications into a standard format and hands off the translated data to communications software for transmission.

4.3 Functionality Test Coverage and Scenarios

Functionality Test coverage has been established to ensure that the functionality being tested best reflects the current and anticipated business environment. The development of the scenario coverage is designed to ensure that each scenario provides value-added processing, and duplication of common processes is minimized. In order to gain a reliable statistical sample of processing measures, several iterations of similar tests may be necessary. The Third Party Consultant will analyze these ordering scenarios to determine the proper mix of orders and the number of iterations required for loading and statistical validity.

The Functionality Test will include both complete and partial flow-through service orders. Complete flow-through orders are LSRs that can flow through U S WEST’s electronic ordering systems without intervention. Those orders that require assistance for completion will be processed through the Service Center as the Present Method of Operations (PMOs) dictate.

Section 1 of Appendix B details the proposed test scenarios for the Functionality Test. These scenarios will be used to create the detailed test cases and subsequent orders/LSRs. At a high level, the scenarios consist of pre-ordering, ordering, provisioning, and billing. A subset of the scenarios will also include maintenance and repair activities. The following provides an overview of the test scenarios based on the processes to be tested.

4.3.1 Pre-Ordering/Ordering

The pre-order process of the Functionality Test will include the following:

- Address Validation
- Customer Service Record (CSR) Inquiry
- Service and Feature Availability
- Telephone Number Reservation
- Appointment Scheduling
- Facility Availability

4.3.2 Provisioning

Functionality included in the provisioning process of the Functionality Tests include the following:

- Receipt and Acknowledgement of LSRs
- Reject Processing
- Manual or Mechanized Service Order Creation
- Receipt of the FOC (Firm Order Commitment)
- Processing through the SOPs (Service Order Processors)
- Completion of the LSRs
- Receipt of the notification for Service Order Completion (SOC)
- 911 and DA database updates

The Functionality Test will also cover the ability of the U S WEST OSS to receive the following order activities as *inbound* transactions:

- New Account Establishment
- Conversion (retail to resale or UNE-C)
- Change
- Suspend/Restore
- Disconnect
- Supplemental Orders
- Cancellation Orders

The Functionality Test will test the ability of U S WEST's OSS to send the following *outbound* transactions:

- Order Rejection/Error Notification
- Order Acknowledgement
- Firm Order Confirmation
- Service Order Completion Report
- Update 911 and DA databases

4.3.3 Back-End Processing

Back-end processing is the ability to establish services and features as requested in LSRs. The Back-End Functionality Test will test the ability of U S WEST's back-end systems to provide CLECs with the services and features being requested, and to update databases, including 911 and DA. The Service Order Completion notification to the CLEC indicates that provisioning is complete.

4.3.4 Billing

Billing is the ability for U S WEST to provide accurate, timely, and complete usage data and billing records to CLECs for the services, features, network items, and functions that were ordered and provisioned. In addition, verification of the documented charges must occur for recurring, non-recurring, usage-sensitive charges, and miscellaneous charges. The primary focus of the Billing Functionality Test is to validate the ability of the billing systems to receive the input in a timely manner and to process the bills accurately. Elements of this test include the following:

- Ensure that what is ordered is what is billed
- Ensure that the bills provide for accurate recurring, non-recurring, and usage-sensitive charges
- Ensure that rates are applied correctly for each product, service, or element
- Ensure that taxes and surcharges have been assessed correctly
- Ensure that discounts and adjustments are performed correctly
- Ensure that prorated amounts are charged accurately according to the disconnect date
- Ensure that disconnects are processed and appear accurately on the bill

4.3.5 Maintenance and Repair

Maintenance and Repair (M&R) provides the ability for CLECs to report trouble to U S WEST and to check the status of trouble tickets. A select set of the Functionality Test scenarios will contain planned M&R activities and will be developed considering the highest volume types of troubles. The focus of the Maintenance and Repair Functionality Test will be on the evaluation of the

electronic trouble request submission process, status, and repair. Test scenarios will include the following:

- No Dial Tone
- Static/Noise on the Line
- Cannot Call Out
- Cannot Be Called
- Cannot Call Long Distance
- Features Not Working

4.4 Functionality Test Volumes

The appropriate test volume will be set to ensure that all tests are conducted with enough data to allow statistical soundness when evaluating the processes and outputs. The number of accounts, transactions, and test iterations will be determined by the Third Party Consultant to ensure that the test volume is adequate.

4.5 Functionality Test Data

The input data (Local Service Requests [LSRs]) required for the Functionality Test are data originating from CLECs and the Pseudo-CLEC (resale, UNE-C, and UNE-L test cases and retail to resale conversion test cases). The proposed method for establishing and processing these data is through the use of 'Friendly' accounts, known henceforth as 'Friendlies', and U S WEST and CLEC 'normal business' production accounts (uncontrolled). Enough accounts must be established to ensure statistical soundness.

Since a production environment approach is being used, the 'Friendlies' accounts will reflect real customers and facilities, and will consist of U S WEST, CLEC, and ACC employees. A CLECs own accounts may also be used.

The management of 'Friendlies' is an important aspect of this test. An additional line(s) for the residential 'Friendlies' will be provisioned to each of the homes to ensure that the existing service is not disrupted. Once the testing has been completed, these lines will be disconnected. The processes and associated high-level tasks required to manage the 'Friendlies' are as follows:

- Determine number of 'Friendlies' required based on total number of scenarios, conditions to be validated, and statistical validity
- Determine distribution and location of 'Friendlies'
- Identify 'Friendlies' and associated locations
- Map 'Friendlies/locations to test scenarios/call scenarios
- Provide for environmental needs for 'Friendlies' (additional line installation)

- Determine the process for managing the 'Friendlies' and notifying them of their testing responsibilities

4.6 Functionality Test Participants

A successful Functionality Test requires participation, commitment, and accountability from the following:

- **Pseudo-CLEC** – The third party retained to create and run the test transaction generator will act as a pseudo-CLEC and have the same responsibilities as the CLECs above during the testing phases. The Pseudo-CLEC will be additionally responsible for customizing its transaction generation software to function with U S WEST's OSS before testing begins.
- **Third Party Consultant** – The role of the selected Third Party Consultant is to monitor/oversee the testing effort, act as test supervisor in the day-to-day operations of the project, track issues that arise during the test, determine Root-Cause Analyses of Issues with participating CLEC, Psuedo-CLEC and U S WEST input, analyze the outcome of the test effort, and provide a feedback report to the ACC. Specifically, the Third Party Consultant will be responsible for the generation of the actual test cases and the coordination of other parties involved in the testing.
- **Test 'Friendlies'** – The 'Friendlies' will be actual volunteers. They will receive packets of information detailing the types of transactions (calls) they will be required to originate, the dates required, and any documentation they are required to create to document their test calls.
- **U S WEST** - U S WEST will act in a supporting role as directed by the ACC and its DCI representatives. This role includes providing subject matter experts (SMEs) for consulting and support during test planning, preparation, execution, and analysis.
- **CLECs** – CLECs selected by the ACC to participate in the testing effort will be required to establish test cases and 'Friendlies' accounts based on the scenarios defined in Appendix B. Additionally, they will be responsible for conducting the tests and reporting the outputs based on the direction from the ACC and the Third Party Consultant.

A complete list of roles and responsibilities for the entire testing effort is detailed in Section 9.

4.7 Functionality Test Phases

The purpose of this section is to detail the types of activities required in each of the Functionality Test phases: Test Planning, Test Preparation, Test Execution, and Test Analysis and Reporting. These activities will be tracked in an overall project plan to be created and maintained by the Third Party Consultant.

4.7.1 Test Planning

This section details the activities, entrance criteria, and exit criteria necessary for the Functionality Test Planning Phase.

4.7.1.1 Test Planning Activities

- Baseline the ACC Master Test Plan and providing revisions as necessary
- Define scope and objectives
- Define test management items (jeopardy management, issues management, etc.)
- Define test participants roles and responsibilities
- Define the test scenarios
- Establish the data approach
- Establish the appropriate testing volumes
- Determine the appropriate resources to support the test preparation and execution phases

4.7.1.2 Test Planning Entrance Criteria

The following are the entrance criteria to the Functional Planning Phase, as there must be a firm understanding of the technical basis and objectives of the test before the remaining planning can be completed.

- Identify test volumes, such as the exact number of 'Friendlies' and test accounts and the total number of activities initiated by the 'Friendlies' within the testing timeframe
- Identify test iterations to establish the appropriate number of tests and volumes to ensure statistical soundness
- Identify test execution interval (number of days) to cover multiple billing periods and other constraints such as installation intervals
- Identify test participants and the associated roles of each
- Manage test 'blindness'
- Identify the 'Friendlies' mix and locations
- Define the overall testing environment

4.7.1.3 Test Planning Exit Criteria

The Test Planning Phase exit criteria consist of assurances that the work in subsequent phases is understood by all participants. Written planning outputs will be supplied to the Third Party Consultant and reviewed in planning sessions. The exit criteria consist of establishment of the following:

- Baselined test plan for each participant
- Test specifications from each CLEC and the Pseudo-CLEC participants
- Defined schedule, including critical path items

4.7.2 Test Preparation

This section details the activities, entrance criteria, and exit criteria necessary for the Functionality Test Preparation Phase.

4.7.2.1 Test Preparation Phase Activities-(by Third Party Consultant)

- Develop detailed test monitoring plans
- Develop detailed project plans
- Define OSS environment requirements
- Finalize the test scenarios and analyze the test coverage
- Identify and assigning the 'Friendlies'
- Create the 'Friendlies' test packages

4.7.2.2 Test Preparation Entrance Criteria

- Draft test plans from all participants
- Draft test specifications from all participants
- Determine available 'Friendlies'

4.7.2.3 Test Preparation Exit Criteria

Activities in the test plans necessary for the start of test execution must be complete. This phase requires test script review by the Third Party Consultant.

4.7.3 Test Execution

This section details the activities, entrance criteria, and exit criteria necessary for the Functionality Test Execution Phase.

4.7.3.1 Test Execution Phase Activities

Test execution includes the following key activities:

CLEC participants, Pseudo-CLEC and U S WEST

- Execute the test cases according to the individual test plans
- Document test results, issues, resolution, and status

Third Party Consultant

- Position staff at CLEC and U S WEST facilities to observe the input and processing of orders
- Conduct surveillance of CLEC interaction with U S WEST in the resolution of issues
- Review weekly status summaries on the current state of each order
- Review data submitted by test participants
- Determine whether the CLEC defined timeline of LSR submission was followed

4.7.3.2 Test Execution Entrance Criteria

- Baselined test plans for each participant
- Test scripts for testing for each participant
- 'Friendlies' preparation
- Operationally ready and available interfaces and systems required for the testing
- Executed system and access agreements, including assignment of required sign-on accounts and passwords
- Appropriate SME staff

4.7.3.3 Test Execution Exit Criteria

A review session is required to complete this phase.

- All test specifications executed and classified as completed according to the plan
- No outstanding major problems, as determined and concurred by the third party and the ACC
- 1 or 2 billing cycles verified, and a sufficient number of disconnects verified.

4.7.4 Test Analysis and Reporting

This section details the activities, entrance criteria, and exit criteria necessary for the Functionality Test Analysis and Reporting Phase.

4.7.4.1 Test Analysis and Reporting Phase Activities (by Third Party Consultant)

- Examine the data submitted by the Test Participants for accuracy and completeness
- Analyze the complete transactional processing for each order
- Track issues that arose during the test
- Determine Root-Cause Analyses of all Issues
- Recommend technical solutions to obstacles encountered during the test
- Prepare a report for the ACC

4.7.4.2 Test Analysis and Reporting Entrance Criteria

This phase requires all outcomes documented during the test execution phase.

4.7.4.3 Test Analysis and Reporting Exit Criteria

A review session is mandatory to complete this phase. Required documents at this review session are the participants' results, which will be combined into a single report document and presented to the ACC. The Third Party Consultant will also complete a report for the ACC to be submitted along with the participants' results.

4.8 Functionality Test Success Criteria

Benchmarks for Performance Measures listed in Appendix E, as modified with CLEC and U S WEST input during the Workshops, and as approved by the ACC, will serve as criteria for success of Functionality Testing.

The Functionality Test success criteria will indicate that all processing is stable (i.e., no major service interrupting or semi-major service impacting issues, and few minor problems). Test results can include a small number of U S WEST software and method problems. Based on the analysis of any such problem, the failure may be sufficiently serious to abort the test and restart once the failure has been fixed. If the scope of the failure is small and the problem is not serious, the test may continue, or U S WEST may opt to provide a fix. U S WEST must identify any failures that it discovers, along with a complete explanation, to the Third Party

Consultant for distribution. The decision on whether or not to proceed with the test will be made by the Third Party Consultant with approval from the ACC.

4.9 Functionality Test Assumptions

- Wherever possible, activities and tests will be streamlined and conducted in parallel.
- CLECs will provide test specifications and cases within their area of responsibility.
- Preparation of the environmental needs for 'Friendlies' will not require significant infrastructure changes.
- The test participants can run their tests independently.
- Two bill cycles are planned, and a bill cycle is 30 days.

5. Retail Parity Evaluation

5.1 Retail Parity Evaluation Purpose

The Retail Parity Evaluation is a type of functionality test to evaluate whether a CLEC representative using a U S WEST intended OSS interface is able to provide a level of service and experience to customers that is reasonably comparable to the level of service and experience that a U S WEST representative can provide using the equivalent internal U S WEST OSS interface.

5.2 Retail Parity Evaluation Scope

A specific set of test scenarios which have Retail comparisons are to be used for the Retail Parity Evaluation. These tests cover pre-ordering, ordering, and maintenance and repair scenarios as defined in Section 3. In general, each CLEC test scenario has a corresponding U S WEST retail scenario in order to conduct a comparison of functionality.

The focus of the Retail Parity Evaluation is on the experience which the customer has while on the line with a CLEC representative, in comparison to the experience of a customer while on the line with a U S WEST representative. Because of this, once the order has been submitted, it is only necessary to run the Retail Parity Evaluation through the ordering processes or through submission of a trouble report. Consequently, the Retail Parity Evaluation activities will be cancelled in the Service Order Processor (SOP).

5.3 Retail Parity Evaluation Coverage and Scenarios

Section 2 of Appendix B details the proposed test scenarios for the Retail Parity Evaluation. These scenarios will be used to create the detailed test cases and subsequent orders/LSRs. At a high level, the scenarios cover pre-ordering and ordering processing. The following provides a high-level overview of the Retail Parity Evaluation scenarios:

- Resale New Connect compared to Retail New Connect
- Retail to Resale Conversion compared to Retail 'Win Back'
- Resale Change compared to Retail Change
- Resale Suspend and Restore compared to Retail Suspend and Restore
- Various Resale Maintenance and Repair Activities (Reporting, Start using, MLT) compared to the equivalent Retail Activities

5.4 Retail Parity Evaluation Volumes

The appropriate test volume will be established to ensure that the comparison process provides a reliable statistical sample of performance measurements when evaluating the processes and outputs. It is anticipated that the volume required for this effort will be a subset of the volumes required for the overall Functionality Test detailed in Section 4. However, the number of accounts, transactions, and test iterations must still be determined to ensure that the test volume is adequate. The Third Party Consultant will determine these volumes.

5.5 Retail Parity Evaluation Data

The goal of the Retail Parity Evaluation is to evaluate resale transactions against the equivalent retail transactions. Consequently, this effort should use test accounts, or 'Friendlies', where the basic account set-up and locations can be as similar as possible to provide the most accurate comparison. For example, to test that the dispatch of a repair technician occurs equally for retail and resale customers, it is most desirable to have these accounts serviced out of the same wire center, and as geographically close to one another as possible.

Data must originate from both resale CLECs and from U S WEST retail. Enough accounts must be established and tested to support the right sample amount to ensure statistical soundness. Like the Functionality Test, the Retail Parity Evaluation will be conducted in a production environment, and U S WEST active participants (e.g., customer service reps) will maintain the required level of 'blindness' by not knowing which accounts are in production as test accounts.

5.6 Retail Parity Evaluation Participants

The participants required for conducting a successful Retail Parity Evaluation are the same as those detailed in the Functionality Test, Section 4.6, although it is probably not necessary to have the participation of the Pseudo-CLEC for this test. U S WEST will have an additional role to execute test cases, since pre-order, order, and M&R activities must be established for retail customers.

5.7 Retail Parity Evaluation Phases

The phases and required activities for the Retail Parity Evaluation are the same as those defined in Section 4.7 for the Functionality Test.

The entrance and exit criteria for each phase are identical to the Functionality Test.

5.8 Retail Parity Evaluation Success Criteria

The same success criteria defined in Section 4.8 for the Functionality test apply to the Retail Parity Evaluation.

For this Test success also depends on two additional criteria. The first is: Do the OSS respond within substantially the same time frames (See Measurements for OSS response times). The second is more qualitative: Is the information presented to the CLEC representative by the system comparable in quality and completeness as the information presented to the U S WEST retail representative.

5.9 Retail Parity Evaluation Assumptions

- The Retail Parity Evaluation will not require end-to-end processing to billing; orders generated for the Retail Parity Evaluation can be cancelled in the Service Order Processing (SOP) systems once the test case is complete.
- Time measurements will be established based on the logical point at which the resale and retail processes can be compared (i.e., a direct comparison from start to finish is not reasonable, since U S WEST has no control over the processing time on the CLEC's side of the gateway).
- The assumptions related to 'Friendlies' in Section 4.8 for the Functionality Test apply to the Retail Parity Evaluation.

6. Capacity Test

6.1 Capacity Test Purpose

The purpose of the Capacity Test (CT) is to provide information that the ACC can use to assess the ability of U S WEST systems to handle CLEC volumes of pre-order and order transactions as projected for 4Q 2000 operations. The Capacity Test is different from the Functionality Test, since it is constructed of a repeatable, controlled, and usually simulated test load. Volumes for this testing effort will be established by the Third Party Consultant with U S WEST and CLEC input. The forecast information will be used to determine the appropriate number and mix of accounts, transactions, and test iterations. Issues addressed by the Capacity Test include:

- System capacity testing, i.e. testing using load generators to verify the capacity of designated U S WEST OSS
- System scalability, i.e. the ability of U S WEST systems to handle a growth rate that may be higher than anticipated
- Staff scalability, i.e. the ability of U S WEST personnel staffing processes to handle a growth rate that may be higher than anticipated

6.2 Capacity Test Scope

For the purposes of the Capacity Test, U S WEST's OSS interfaces will be tested, including both the EDI and the IMA GUI interfaces. The Third Party Consultant will, with CLEC and U S WEST input, determine the parameters involved in conducting the capacity tests of the U S WEST systems. A balance between simplicity of testing and statistical soundness of the analysis must be reached in determining the appropriate test conditions.

The Capacity Test will include tests for evaluating the capacity of U S WEST's pre-order, ordering, and provisioning OSS interfaces for resale, UNE-C, UNE-loop, UNE-loop with number portability, and number portability. Testing will be performed with U S WEST's electronic gateways, including both IMA and EDI gateways.

For each of the tests and for each electronic gateway in the pre-order, order, and provisioning process, the Capacity Test will evaluate the following:

- Selected performance measures for which the appropriate capacity measure is established
- Standard computer metrics (such as processor utilization)
- OSS scalability, including procedures for capacity expansion and estimates of the largest volume that the OSS configuration accepts under normal conditions

During the Capacity Test, the scalability of each interface involved in the test must be evaluated. For each system in the test, U S WEST should demonstrate its approach to scalability to ensure that future volume growth can be properly planned for before existing resources are exhausted.

The Capacity Test does not address the downstream provisioning systems in which CLEC-initiated traffic and U S WEST-initiated traffic are combined. Those systems are considered mature and not in need of testing since they are part of U S WEST retail operations.

6.3 Capacity Test Coverage and Scenarios

Capacity Test coverage and associated scenarios will include a representative mix of the pre-order queries and order transactions tested in the Functionality Test.

For the pre-ordering capacity test, the workload will consist of an equal number of the query types listed below:

- Address Validation
- Customer Service Record (CSR)
- Service and Feature Availability
- Appointment Scheduling²
- Facility Availability

For the ordering capacity test, clean LSRs will be used. The test will validate the capacity of the systems and not the functionality across extensive local service request types. Test conditions that provide for mechanized error and rejections will be included.

Special conditions, such as future dates on LSRs, may be placed on the test transactions so that production processing is not adversely affected. The special

² If technically feasible

conditions will also provide an alternative method for identifying test orders for data extraction and test clean-up activities.

Test scenarios will be further defined once the Third Party Consultant and the Pseudo-CLEC are selected.

6.4 Capacity Test Volumes

The Third Party Consultant will be responsible for determining the appropriate volumes for the Capacity Test, based on historical data and forecasts for 4Q2000, derived from input from U S WEST and CLECs. In addition, the specific hour-by-hour volume requirements will also be determined by the Third Party Consultant and communicated to the participating CLECs. The volume units for orders are LSRs, while the units for pre-orders are service queries. Factors utilized in test volume determination include:

- The number of CLEC pre-order queries for each LSR
- A loading factor for Arizona, considering that the systems are utilized for all U S WEST states, if necessary
- A loading factor to account for forecast error
- An estimate of hourly volumes and busy hour considerations

To attain a satisfactory volume of transactions, the test mix may contain replications of transactions. Replications are inputs which are essentially the same, but which contain different data so that they are unique for the purpose of the test.

6.5 Capacity Test Data

Each participating CLEC and the Pseudo-CLEC will provide the input data for executing the Capacity Test. In other third party OSS testing, participating CLECs have used test simulators to effectively generate the required volumes of tests. As mentioned above, replication of transactions will most likely be required to attain a satisfactory volume of transactions.

The Capacity Test should be run with clean (error-free) LSRs to ensure that the focus is on transaction volumes and not functionality. The input 'seed' data will consist of data that has passed through the pre-order and order portions of the Functionality Test without error, and will then be 'replicated' as necessary by CLEC simulators and the Pseudo-CLEC to provide adequate volumes.

6.6 Capacity Test Participants

The Capacity Test participants are the same participants as outlined in Section 4.6 for the Functionality Test. The Pseudo-CLEC will play an important role in this test, because transaction generator software will be necessary for generating many replicated transactions to meet the volume requirements.

6.7 Capacity Test Phases

The purpose of this section is to detail the types of activities required in each of the Capacity Test phases: Test Planning, Test Preparation, Test Execution, and Test Analysis and Reporting. These activities will be tracked in an overall project plan to be created and maintained by the Third Party Consultant.

6.7.1 Test Planning

This section documents the activities, entrance criteria, and exit criteria required for the Capacity Test Planning Phase.

6.7.1.1 Test Planning Activities

- Define test participants roles and responsibilities including the Pseudo-CLEC
- Define the test scenarios
- Establish the appropriate testing volumes
- Determine the appropriate resources to support the test preparation and execution phases
- Define and validate the test plans (participating CLECs will generate their own test plans as described by the Third Party Consultant):
 - Test Plans should include the test environment description, entrance and exit criteria, test execution schedule, and the approach for generating LSRs

6.7.1.2 Test Planning Entrance Criteria

The following are the entrance criteria to the Capacity Planning phase. There must be a firm understanding of the technical basis and objectives of the test before the rest of the planning can be completed.

- Definition and appropriate adjustment of workload mix and volumes
- Determination of the systems involved in the test
- Determination of participants

- Finalization of success criteria
- Determination of the times of day for testing, including times of low system activity and normal business hours

6.7.1.3 Test Planning Exit Criteria

- Baselined test plan for each participant
- Test specifications for each participant
- Defined schedule, including critical path items

6.7.2 Test Preparation

This section documents the activities, entrance criteria, and exit criteria required for the Capacity Test Preparation Phase.

6.7.2.1 Test Preparation Activities

The Test Preparation Phase requires that each participating CLEC prepare a test script outlining the input and the definition of expected observations for pre-ordering and ordering. The scripts must be debugged until they run as designed, including mechanized errors and rejects. Once the scripts are debugged, the Third Party Consultant will review and approve the scripts. The Third Party Consultant will also define the role of the Pseudo-CLEC, depending on the extent and nature of Arizona CLEC participation.

6.7.2.2 Test Preparation Entrance Criteria

- Valid and reviewed test plans for each participant
- A production test environment
- A scheduled date for the tests

6.7.2.3 Test Preparation Exit Criteria

This phase requires test scripts for pre-order and order activities validated by the Third Party Consultant. A review session is required.

6.7.3 Test Execution

This section documents the activities, entrance criteria, and exit criteria required for the Capacity Test Execution Phase.

6.7.3.1 Test Execution Activities

Participating CLECs and Pseudo-CLEC Will:

- Execute the test cases according to the test plans
- Capture and record all relevant data

U S WEST Will Provide:

- Performance Measurement calculations based on capacity test data

6.7.3.2 Test Execution Entrance Criteria

- Test scripts for the pre-order tests
- Test scripts for the order tests
- Mechanisms to verify test results and to maintain a permanent record

6.7.3.3 Test Execution Exit Criteria

A review session with all participants is required to complete this phase. The Execution Phase is complete when the Third Party Consultant concurs that the following conditions are met:

- All test specifications are executed and classified as completed according to plan
- No outstanding major problems exist, by definition and concurrence of the Third Party Consultant and the ACC
- No unresolved escalated issues exist

6.7.4 Test Analysis and Reporting

This section details the activities, entrance criteria, and exit criteria required for the Capacity Test Analysis and Reporting Phase.

6.7.4.1 Test Analysis and Reporting Activities

- Analyze executed test cases and ensure that all test cases were executed and no major issues are outstanding
- Evaluate the system capacity versus forecasted load
- Evaluate whether the systems met the expectations of the Performance Measurement criteria
- Prepare a Report for the ACC

6.7.4.2 Test Analysis and Reporting Entrance Criteria

This phase requires the outcomes recorded in the test scripts (i.e., a successful execution).

6.7.4.3 Test Analysis and Reporting Exit Criteria

A review session is required to complete this phase. Completion of the Capacity Test will be documented in two reports to the ACC: one from the Pseudo-CLEC, and a second called the Third Party Consultant's Evaluation Report, which will include the validated analysis of the participants' reports.

6.8 Capacity Test Success Criteria

- The relevant performance measures standards met
- All tested U S WEST OSS handled the offered load
- All tested U S WEST OSS handled at least an additional 10% workload to account for bursts of activity
- The Capacity Test execution did not cause application or system failures

6.9 Capacity Test Assumptions

- Pre-Ordering and Ordering Capacity Tests can be executed independent of each other.
- The volume mix and arrival rate will be based on forecasted expectations for 4Q2000.
- A subset of the Functionality Test orders will be used for the Capacity Test. The orders will be replicated to provide the required volume and mix. Purchase Order Number (PON), Telephone Number (TN), Appointment Date, Name, and Address fields will be 'parameterized' (i.e., the value of the parameter will change for an instance of the test) so as to achieve the volume needs of the test.
- The capacity test will be based on orders that are Service Order Constructor (SOC) capable and will process through pre-ordering and ordering without error.
- An extended fictitious due date will be used on the order (Sunday, 12/31/00, for example) to prevent the provisioning process from occurring.

6.10 Systems Scalability

U S WEST pre-order and order activities depend on the capabilities of certain computer systems. The Third Party Consultant will perform a system scalability

analysis to determine if U S WEST has adequate procedures for scaling their systems so that they will have adequate capacity to handle CLEC loads. Included in this review are the following:

- Evaluate the procedures for tracking OSS load and capacity
- Evaluate the procedures for forecasting future OSS load
- Evaluate the process for providing OSS computer growth

6.11 Staff Scalability

U S WEST pre-order and order activities also depend in many cases on manual processes to adequately meet their CLEC customer demand. The Third Party Consultant will perform a staff scalability analysis to determine if U S WEST has the ability to increase the number of personnel available to perform these manual functions. Included in this review are the following:

- Evaluate the procedural framework that U S WEST has in place to develop force models for its CLEC support centers
- Evaluate the volume contingency plans that U S WEST has in place to meet dramatic increases in CLEC order volume
- Evaluate the disaster recovery plans that U S WEST has in place to assure continued operations
- Evaluate the scalability of recruiting and training programs that U S WEST has in place to provide for the availability of staff with the necessary skills to adequately perform the manual support functions.

7. Change Management Test

7.1 Change Management Test Purpose

The Change Management Test is not an OSS test, but a 'process test' to ensure that U S WEST's system and/or process change control methods are appropriately conducted and communicated to CLECs effectively, based on the defined change control procedures.

7.2 Change Management Test Scope

A change control process is a cooperative process for CLECs and U S WEST to identify, discuss, and track OSS interface new functionality, enhancements to existing functionality, and required code maintenance, which are included in specific software releases.

7.3 Change Management Test Plan

Following U S WEST's documented change management methods and procedures, the Third Party Consultant will validate the procedures, and monitor and evaluate U S WEST's ability to execute them. Once the Third Party Consultant is chosen, the change management M&Ps will be distributed, and the detailed plan for testing the change management process will be developed.

7.4 Change Management Test Entrance and Exit Criteria

The entrance criteria required for this test is the U S WEST documented change management methods and procedures. Exiting this test will include a review session where all observed activities and results measured against the procedures will be reviewed for completeness. The actual exit criteria will be an outcome report generated by the Third Party Consultant detailing observations of the overall change management process.

7.5 Change Management Test Assumptions

- The documented change management methods and procedures are the input for this evaluation.

7.6 U S WEST-CLEC Interaction

In addition to a review of U S WEST's change management system is the evaluation of the interaction between U S WEST and its CLEC customers concerning their ongoing utilization of U S WEST's OSS. The Third Party Consultant will evaluate this interaction. This will include:

- Procedures for establishing a CLEC on the U S WEST OSS
- Training of CLECs in the use of the systems
- Analysis by U S WEST of rejects, errors, etc. for improving system usage and performance
- Procedures for communicating with CLECs concerning OSS issues.

8. Performance Measurement Evaluation

8.1 Performance Measurement Evaluation Purpose

The Performance Measurement (PM) Evaluation is designed to provide the ACC with a statistically valid assessment of U S WEST's performance in providing service to the CLECs based on established performance measures. The PM defines those standards set by the ACC that U S WEST must meet in order to comply with Section 271 of the Act.

PMs fall into three broad categories: parity, benchmark, and report only. Parity measures show that US WEST OSS systems allow parity access for competing CLECs. Benchmarks define a level of performance for service provided to a CLEC for which there is not an equivalent function within U S WEST. The report-only category is provided for those measures that the Commission or other regulatory body determined were of interest but were used for diagnostic purposes, often because they back-up other PMs. The report only category also includes measures for which there is not yet sufficient information or the need to set a benchmark.

The evaluation of US WEST Performance Review falls into 4 components:

- PM Process Review
- Historical Evaluation
- Functionality Test Evaluation
- Capacity Test Evaluation

8.2 Performance Measurement Evaluation Scope

In its Statement of Generally Available Terms, U S WEST has committed to provide results of the performance measurements listed in Appendices B and C. Appendix D provides a list of performance measurements for which benchmarks will be established. The ACC, with CLEC and U S WEST input, will establish final Performance Measurement criteria (benchmarks) for U S WEST in the OSS workshops. Appendices B, C and D are summarized in the following paragraphs.

- Appendix B contains detailed descriptions of U S WEST's performance measurements. Each page lists: (1) the indicator number for the measurement, (2) the name of the measurement, (3) the purpose of the measurement, (4) a detailed description of the measurement, (4) the formula used to compute the result of the measurement, and (5) relevant notes and explanations.

- Appendix C lists which performance measurements will be included in the Functionality Test and/or in the Capacity Test. The Functionality Test is broken out into OSS functionality testing and end-to-end functionality testing. Appendix C is based upon a similar chart attached to the Texas test plan. Appendix C may be modified somewhat as this Master Test Plan is finalized. Only those measurements with a Yes indication will be considered during the Functionality and Capacity Tests. Those measurements will also be evaluated during the Performance Measurement Evaluation to verify that U S WEST is collecting adequate data and computing accurate results. Those measurements with No Yes indication, will only be included in the testing to the extent that they are evaluated during the Performance Measurement Evaluation to verify that U S WEST is collecting adequate data and computing accurate results.
- Appendix D is a chart that will be filled out in the workshop process, with the ACC making final decisions regarding any disputes. The chart will include the parties positions regarding: (1) whether a standard is necessary for the performance measurement, or whether a measurement standard is not appropriate for an OSS test (the only way such measurements will be included in the test is that measurement data and calculations will be verified during the Performance Measurement Evaluation), (2) if a standard is necessary, whether the standard should be a benchmark or parity, and (3) if a benchmark is appropriate, what the benchmark should be.

8.3 Performance Measurement Evaluation Coverage and Scenarios

The Performance Measurement Evaluation will include both an evaluation of the processes and procedures U S WEST has in place for collecting data and computing the results of the performance measurements listed in Appendices B & C and an evaluation of three months of data for those performance measurements. The following provides an overview of the Performance Measurement Evaluation:

8.3.1 Review of Data Collection Process

The Performance Measurement Evaluation will include an evaluation of the process and procedures in place to verify that data is being collected and used in a proper fashion when computing performance measures. This evaluation will include:

- Examination of documentation;
- Interviews of U S WEST personnel; and

- Clarification discussions with CLEC representatives, where appropriate.

8.3.2 Historical Data Evaluation

The Performance Measurement Evaluation will include an examination of performance measurement data from a three-month period to determine if U S WEST is correctly computing the results. The purpose of the historical data evaluation is to determine the validity of U S WEST's performance measurement reporting through analysis of U S WEST's calculations using the input data employed by U S WEST, or to determine whether such data warrants different conclusions. This evaluation will include:

- Review of the calculation of performance measurements;
- Independent calculation of results, using data provided by U S WEST;
- Calculation of z-statistics for performance measurements; and
- Comparison to z-statistics computed by U S WEST.

8.3.3 Functionality and Capacity Test Performance Measurements

The Performance Measurements listed in Appendix D will be evaluated for the Functionality Test and the Capacity Test. For each test, data will be collected for the performance measures with a yes entry in the applicable section of the table. The table identifies the performance measures for the Functionality Test as either OSS Performance or End-to-End. This distinction is meant to clarify the role of the performance measure during test evaluation.

8.4 Performance Measurement Evaluation Test Plan

8.4.1 Review of Data Collection Process

Once the Third Party Consultant is chosen, U S WEST will provide an explanation and documentation of its performance measurement process and procedures. The Third Party Consultant will validate the process and procedures and monitor U S WEST's ability to execute them. If appropriate, the Third Party Consultant will conduct interviews of U S WEST and/or CLEC personnel.

8.4.2 Historical Data Evaluation

Once the Third Party Consultant is chosen, U S WEST will provide performance measurement data from a three-month period. The Third Party Consultant will validate the process and procedures and monitor U S WEST's ability to execute them. If appropriate, the Third Party Consultant will conduct interviews of U S WEST and/or CLEC personnel.

8.4.3 Functionality Testing and Capacity Testing

During Functionality Testing and Capacity Testing, U S WEST will provide appropriate performance measure data and results. The Third Party Consultant will verify such data and incorporate the results into the Functionality Testing and Capacity Testing. The Third Party Consultant will acquire and/or develop data, calculate Functionality and Capacity test results, and validate results of U S WEST, Pseudo-CLEC and CLEC analyses

8.5 Performance Measurement Evaluation Entrance and Exit Criteria

The entrance criteria for this test are the U S WEST documented processes and procedures for the enumerated performance measurements listed in appendices B and C. Exiting this test will include a review session where all observed activities, data and results will be reviewed for validity. The actual exit criteria will be an outcome report generated by the Third Party Consultant detailing observations regarding U S WEST's performance measurements.

8.6 Performance Measurement Evaluation Participants

The Performance Measurement Evaluation participants are the same participants as outlined in Section 4.6 for the Functionality Test. The Third Party Consultant will play an important role in this test in that it will perform the evaluation of the performance measurement data and calculations provided by U S WEST.

8.7 Performance Measurement Evaluation Assumptions

- The performance measurements to be evaluated are those enumerated in Appendices B and C, as modified by the ACC.
- The Historical Data Evaluation will be based upon three months of data for each enumerated performance measurement.

9. Roles and Responsibilities

9.1 The ACC

The role of the Commission is to:

- Oversee the development of the tests
- Oversee the test process
- Define the scope of the tests
- Provide final approval of baseline documents, including the Master Test Plan
- Appoint the test supervisor to oversee day-to-day activities
- Review the Third Party Consultant Test report and Pseudo-CLEC report
- Make the final recommendation to the FCC

9.2 DCI

The responsibilities of DCI will include:

- Act with/for the ACC to establish the draft and final Master Test Plan
- Provide ongoing counsel and technical support to the ACC throughout the testing process
- Maintain communications among all interested parties and manage the flow of information among parties
- Assist the ACC in overseeing the test process and in evaluating Test results and recommendations

9.3 Third Party Consultant

As part of its role of oversight or audit, the Third Party Consultant will:

- Provide final input to the master test plan, including development and validation of:
 - Functional test coverage and scenarios.
 - Parity test coverage and scenarios.

- Capacity test coverage and scenarios.
 - Change management methods and processes.
 - Scalability of U S WEST interfaces.
- Ensure that U S WEST is following established business rules, and accurately collecting data and computing performance measurement results.
- Monitor test sites and activities, the test planning schedule and test execution schedule, and baseline documents.
- Prepare test planning schedule and test execution schedule.
- Track testing action items.
- Assign accountabilities and track resolution of issues/problems identified.
- Collect test status from U S WEST, Pseudo-CLEC and participating CLECs and report status to the ACC.
- Provide day-to-day supervision of the test program.
- Analyze test results.
- Submit a Third Party Consultant report of results and recommendations to the ACC.
- Provide technical advice to all test participants.

9.4 Participating CLECs

Participating CLECs will have the following responsibilities:

- Provide detailed test specifications.
- Provide test execution plans.
- Provide for test execution.
- Provide test support and SMEs as necessary to the Third Party Consultant.

9.5 Pseudo-CLEC

The Pseudo-CLEC will have the same responsibilities as the participating CLECs above, but will also have responsibility for the following:

- Build an application-to-application OSS interface necessary for the testing (based upon baseline documentation provided by U S WEST).
- Document the relative ease or complexity of creating the interface.
- Electronically submit pre-order inquiries, service order request (LSRs), associated trouble reports, and other transactions through U S WEST OSS interfaces.
- Receive various U S WEST confirmations, jeopardy notices, completion notices and responses back from querying the various OSS functions.
- Build the capability to deliver and receive a volume of transactions, including pre-order, local service requests (LSRs), and trouble reports to allow for functionality and capacity testing of the U S WEST OSS systems.

9.6 U S WEST

U S WEST is a direct participant of the test with the following roles and responsibilities:

- Provide the OSS environment to be used for the test.
- Provide subject matter expertise in a collaborative development effort with the Pseudo-CLEC, with the CLECs, with the Third Party Consultant and with the ACC.
- Provide technical specifications and resources to be used by the Pseudo-CLEC for establishment as a pseudo-CLEC and for customization of the transaction generation software.
- Provide personnel to develop and execute cases according to established methods and procedures on the retail side of the Retail Comparison Test.
- Provide support of the testing effort at the direction of the ACC. This support will include many organizations within U S WEST, and tasks such as the day-to-day management of the supporting team, root cause analysis, production data and systems SME support, etc.

10. Proposed Schedule and Timeline

A summary of the key milestones and critical path items for the success of the project is provided in the following **draft** timeline. This timeline is meant to represent the high-level, major milestones associated with this test and will be further detailed during test planning and placed into an overall project plan. The project plan will be modified and maintained by the Third Party Consultant and ACC as the Master Test Plan is finalized, and used primarily as input to track the overall milestones. All test participants will have their own internal plans to map to the overall project plan.

Task	Date
Submit Draft Arizona OSS Test Plan to ACC for review	8/20/99
Draft OSS Test Plan Finalized by ACC	8/27/99
Draft Arizona OSS Test Plan Distributed to U S WEST and CLECs	8/30/99
Draft Arizona OSS Test Plan presented at 1 st Workshop	9/13-14/99
Request For Proposal Distributed to Vendors (includes draft Arizona OSS Test Plan)	9/17/99
Responses from Vendors Due to ACC	10/1/99
Vendor(s) Selected and Contract Signed	10/8/99
Development of Test Transaction Generator	10/8/99 – 12/8/99
Test Planning – Define Test Bed	10/8/99 – 11/10/99
Test Case Definition	10/15/99 – 12/15/99
Test Preparation – Test Bed Implementation	11/10/99 – 1/07/00
Test Account Mapping to Test Cases	12/1/99 – 1/07/00
Functionality Test Execution	1/10/00 – 3/10/00
Retail Comparison Test Execution	1/10/00 – 3/10/00
Capacity Test Execution	2/7/00 – 3/31/00
Test Analysis and Reporting	3/13/00 – 4/14/00

11. Conclusion and Summary

This OSS Test Plan defines the testing approach and strategy, as well as the entrance and exit criteria, to support each phase of testing. This document additionally defines the expectations of the test participants and provides for a collaborative approach toward OSS testing. The next required steps for defining the detailed test cases, data volume and mix, and resource requirements can begin based on the information contained in this document.

When successfully executed in a collaborative approach with the ACC, this OSS Test Plan will demonstrate U S WEST's operational readiness, performance, and capacity to provide access to pre-ordering, ordering, provisioning, repair and maintenance, and billing OSS functionality to CLECs in the state of Arizona.

APPENDIX A

TEST SCENARIOS

TEST SCENARIOS

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TEST SCENARIOS

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario	Directory Listings										Directory Listing Explanation	Maintenance Issue						
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed	Caption	
Retail to UNE-C Conversion (residence)																				
1.	Retail to UNE-C	Convert 1 Res line, no features, straight line main listing	X							X									Main line listed – straight line main listing	No Dialtone
2.	Retail to UNE-C	Convert 1 Res line, no features, Non-pub listing	X						X						X				Main line non-pub	
3.	Retail to UNE-C	Convert 1 Res line, single feature, dual name listing	X							X						X			Main line listed – straight line main listing dual name	
4.	Retail to UNE-C	Convert 1 Res line, single feature, additional listing	X							X						X			Main line listed straight line main listing and additional listing	
5.	Retail to UNE-C	Convert 1 Res line, multiple features, non-listed	X								X						X		Main line – non-listed	
6.	Retail to UNE-C	Convert 1 Res line, multiple features, caption listing	X								X								Main line – listed with additional main line listing using caption indent	
7.	Retail to UNE-C	Convert 1 Res line, multiple features, straight line main listing and additional listing	X								X					X			Main line listed straight line main listing and additional listing	
8.	Retail to UNE-C	Convert 2 Res lines, no features, non-pub listing		X													X		Main line non-pub for both lines	

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario											Directory Listings					Directory Listing Explanation	Maintenance Issue	
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name	Additional Listing	Non-listed	Caption			
9.	Retail to UNE-C	Convert 2 Res lines, no features, additional listing		X					X							X		Main line listed straight line main listing and additional listing for both lines		
10.	Retail to UNE-C	Convert 2 Res lines, single feature, non-listed		X						X							X	Main line non-listed for both lines		
11.	Retail to UNE-C	Convert 2 Res lines, single feature, caption listing		X						X								Main line caption indent for both lines		
12.	Retail to UNE-C	Convert 2 Res lines, multiple features, straight line main listing		X							X							Main line listed straight line main listing for both lines		
13.	Retail to UNE-C	Convert 2 Res lines, single feature, non-pub listing		X							X				X			Main line non-pub for both lines		
Retail to UNE-C Conversion (business)																				
14.	Retail to UNE-C	Convert 1 Bus line, no features, straight line main listing			X				X						X			Main line listed – straight line main listing		
15.	Retail to UNE-C	Convert 1 Bus line, single feature, additional listing			X					X						X		Main line listed – straight line main listing and additional listing		
16.	Retail to UNE-C	Convert 1 Bus line, multiple features, caption listing			X						X							Main line listed – caption		
17.	Retail to UNE-C	Convert 1 Bus line, multiple features, straight line main listing and additional listing			X											X		Main line listed – straight line main listing and additional listing		

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings												Directory Listing Explanation	Maintenance Issue			
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name			Additional Listing	Non-listed	Caption
18.	Retail to UNE-C	Convert 2 Bus lines, no features, additional listing				X			X							X		Main line listed – straight line main listing and additional listing for both listings	
19.	Retail to UNE-C	Convert 2 Bus lines, single feature, caption listing				X				X								Main line listed – caption listings for both lines	
20.	Retail to UNE-C	Convert 2 Bus lines, multiple features, straight line main listing				X					X							Main line listed – straight line main listing for both lines	
21.	Retail to UNE-C	Convert 2 Bus lines, multiple features, non-pub and non-listed				X						X				X		1 main line – non-listed and 1 main line – non-pub	
Resale to UNE-C Conversion (residence)																			
22.	Resale to UNE-C	Convert 1 Res line, no features, straight line main listing							X					X				Main line listed – straight line main listing	
23.	Resale to UNE-C	Convert 1 Res line, no features, Non-pub listing							X						X			Main line non-pub	
24.	Resale to UNE-C	Convert 1 Res line, single feature, dual name listing								X						X		Main line listed – straight line main listing dual name	
25.	Resale to UNE-C	Convert 1 Res line, single feature, additional listing									X						X	Main line listed – straight line main listing and additional listing	
26.	Resale to UNE-C	Convert 1 Res line, multiple features, non-listed																Main line – non-listed	

SECTION 1: FUNCTIONALITY TEST																					
Scenario #	Order Type	Scenario											Directory Listings						Directory Listing Explanation	Maintenance Issue	
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name	Additional Listing	Non-listed	Caption				
27.	Resale to UNE-C	Convert 1 Res line, multiple features, caption listing	X																	Main line listed and additional main line listing – caption indent	
28.	Resale to UNE-C	Convert 1 Res line, multiple features, straight line main listing and additional listing	X								X							X		Main line listed – straight line main listing and additional listing	
29.	Resale to UNE-C	Convert 2 Res lines, no features, non-pub listing		X					X							X				Main line non-pub for both lines	
30.	Resale to UNE-C	Convert 2 Res lines, no features, additional listing							X									X		Main line listed – straight line main listing and additional listing for both lines	
31.	Resale to UNE-C	Convert 2 Res lines, single feature, non-listed		X						X									X	Main line non-listed for both lines	
32.	Resale to UNE-C	Convert 2 Res lines, single feature, caption listing		X						X										Main line listed – caption for both lines	
33.	Resale to UNE-C	Convert 2 Res lines, multiple features, straight line main listing		X							X									Main line listed – straight line main listing for both lines	
34.	Resale to UNE-C	Convert 2 Res lines, multiple feature, non-pub listing		X																Main line non-pub for both lines	Feature is not provisioned

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings												Directory Listing Explanation	Maintenance Issue			
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name			Additional Listing	Non-listed	Caption
Resale to UNE-C Conversion (business)																			
35.	Resale to UNE-C	Convert 1 Bus line, no features, straight line main listing			X					X						X	Main line listed – straight line main listing		
36.	Resale to UNE-C	Convert 1 Bus line, single feature, additional listing		X						X					X		Main line listed – straight line main listing and additional listing		
37.	Resale to UNE-C	Convert 1 Bus line, multiple features, caption listing		X							X						Main line listed – caption		
38.	Resale to UNE-C	Convert 1 Bus line, multiple features, straight line main listing and additional listing		X							X	X			X		Main line listed – straight line main listing and additional listing		
39.	Resale to UNE-C	Convert 2 Bus lines, no features, additional listing							X						X		Main line listed – straight line main listing and additional listing		
40.	Resale to UNE-C	Convert 2 Bus lines, single feature, caption listing							X								Main line listed – caption	Unable to accept Collect Calls	
41.	Resale to UNE-C	Convert 2 Bus lines, multiple features, straight line main listing									X	X					Main line listed – straight line main listing		
42.	Resale to UNE-C	Convert 2 Bus lines with multiple features, non-pub and non-listed											X			X	1 main line listing – non-listed and 1 main line listing non-pub		

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings										Directory Listing Explanation	Maintenance Issue				
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed
Retail to Resale Conversion (residence)																		
43.	Retail to Resale	Convert 1 Res line, no features, straight line main listing	X						X								Main line listed – straight line main listing	
44.	Retail to Resale	Convert 1 Res line, no features, Non-pub listing	X						X				X				Main line non-pub	
45.	Retail to Resale	Convert 1 Res line, single feature, dual name listing	X							X					X		Main line listed – straight line main listing dual name	Static/Noise on Line
46.	Retail to Resale	Convert 1 Res line, single feature, additional listing	X							X					X		Main line listed – straight line main listing and additional listing	
47.	Retail to Resale	Convert 1 Res line, multiple features, non-listed	X								X					X	Main line – non-listed	
48.	Retail to Resale	Convert 1 Res line, multiple features, caption listing	X								X						Main line – caption listing	
49.	Retail to Resale	Convert 1 Res line, multiple features, straight line main listing and additional listing	X								X	X			X		Main line listed – straight line main listing and additional listing	
50.	Retail to Resale	Convert 2 Res lines, no features, non-pub listing	X						X					X			Main line – non-pub	
51.	Retail to Resale	Convert 2 Res lines, no features, additional listing	X												X		Main line listed and additional listing for both lines	
52.	Retail to Resale	Convert 2 Res lines, single feature, non-listed	X													X	Main line non-listed for both lines	
53.	Retail to Resale	Convert 2 Res lines, single feature, caption listing	X														Main line listed – caption for both lines	

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue					
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed	Caption	
54.	Retail to Resale	Convert 2 Res lines, multiple features, straight line main listing		X							X	X						Main line listed – straight line main listing for both lines		
55.	Retail to Resale	Convert 2 Res lines, single feature, non-pub listing	X								X		X					Main line non-pub for both lines		
Retail to Resale Conversion (business)																				
56.	Retail to Resale	Convert 1 Bus line, no features, straight line main listing			X					X				X				Main line listed – straight line main listing		
57.	Retail to Resale	Convert 1 Bus line, single feature, additional listing		X						X					X			Main line listed – straight line main listing and additional listing	Can't Call In	
58.	Retail to Resale	Convert 1 Bus line, multiple features, caption listing		X							X							Main line listed – caption listing		
59.	Retail to Resale	Convert 1 Bus line, multiple features, straight line main listing and additional listing		X							X	X			X			Main line listed – straight line main listing and additional listing		
60.	Retail to Resale	Convert 2 Bus lines, no features, additional listing			X						X					X		Main line listed – straight line main listing and additional listing		
61.	Retail to Resale	Convert 2 Bus lines, single feature, caption listing			X						X							Main line listed – caption listing		
62.	Retail to Resale	Convert 2 Bus lines, multiple features, straight line main listing			X							X						Main line listed – straight line main listing		
63.	Retail to Resale	Convert 2 Bus lines, multiple features, non-pub and non-listed			X								X				X	1 main line non-listed and 1 main line non-pub		

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue			
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed
Resale New (residence)																		
64.	Resale New	Install 1 Res line, no features, straight line main listing	X						X								Main line listed – straight line main listing	
65.	Resale New	Install 1 Res line, no features, non-pub listing	X						X				X				Main line non-pub	
66.	Resale New	Install 1 Res line, single feature, caption listing	X							X							Main line listed – caption	
67.	Resale New	Install 1 Res line, multiple features, dual name listing	X								X			X			Main line listed – straight line main listing dual name	
68.	Resale New	Install 1 Res line, multiple features, additional listing	X								X				X		Main line listed – straight line main listing and additional listing	
69.	Resale New	Install 1 Res line, multiple features, straight line main listing with additional listing	X								X	X			X		Main line listed – straight line main listing and additional listing	
70.	Resale New	Install 2 Res lines with no features, non-pub listing		X					X				X				Main line non-pub for both lines	
71.	Resale New	Install 2 Res lines with no features, additional listing		X					X						X		Main line listed – straight line main listing and additional listing	
72.	Resale New	Install 2 Res lines with single feature, non-listed	X							X						X	Main line non-listed for both lines	
73.	Resale New	Install 2 Res lines with single feature, caption listing	X								X						Main line listed – caption for both lines and additional main line listing	

SECTION 1: FUNCTIONALITY TEST																			
Scenario #	Order Type	Scenario	Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name	Additional Listing	Non-listed	Caption	Directory Listing Explanation	Maintenance Issue
74.	Resale New	Install 2 Res lines with multiple features, straight line main listing		X							X	X						Main line listed – straight line main listing and additional main line listing for both lines	
75.	Resale New	Install 2 Res lines with multiple features, non-pub listing		X							X		X					Main lines non-pub for both lines	Inability to dial 555-1212
Resale New (business)																			
76.	Resale New	Install 1 Bus line, no features, straight line main listing			X				X			X						Main line listed – straight line main listing	
77.	Resale New	Install 1 Bus line, single feature, additional listing			X				X						X			Main line listed – straight line main listing	Static/Noise on Line
78.	Resale New	Install 1 Bus lines, multiple features, caption listing			X						X							Main line listed – caption	
79.	Resale New	Install 1 Bus line, multiple features, straight line main listing with additional listing			X						X	X			X			Main line listed – straight line main listing and additional listing	
80.	Resale New	Install 2 Bus lines with no features, additional listing				X			X									Main line listed – straight line main listing and additional listing for both lines	
81.	Resale New	Install 2 Bus lines with single feature, caption listing				X												Main line listed – caption for both lines	
82.	Resale New	Install 3 Bus lines with multiple features, straight line main listing				X						X						Main line listed – straight line main listing for both lines	

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings												Directory Listing Explanation	Maintenance Issue			
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name			Additional Listing	Non-listed	Caption
83.	Resale New	Install 2 Bus lines with multiple features, non-pub and non-listed				X						X		X			X	1 main line non-list and 1 main line non-pub	
UNE Loop																			
84.	UNE Loop New	Install new loop			X													Not Applicable	
85.	UNE Loop New	Install multiple new loops				X												Not Applicable	
86.	UNE Loop Change	Change the 'CFA' on an existing loop			X													Not Applicable	
87.	UNE Loop Disc	Disconnect a loop			X													Not Applicable	
88.	UNE Loop Disc	Disconnect multiple loops				X												Not Applicable	
89.	UNE Loop Full Migr	Full migration of a single loop			X													Not Applicable	
90.	UNE Loop Full Migr	Full migration of existing loops				X												Not Applicable	Static, No Dialtone

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue					
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed	Caption	
91.	UNE Loop Full Migr+A add a new loop	Full migration of existing loops + add a new loop			X													Not Applicable	Static , No dialtone	
92.	UNE Loop Out Mve	Outside move of a single loop from address a to address b – Test with IMA.		X														Not Applicable		
93.	UNE Loop Out Mve	Outside move of a single loop from address a to address b		X														Not Applicable		
94.	UNE Loop Part Migr	Partial migration of multiple loops Billing Telephone Number (BTN) staying with USWC			X													Not Applicable		
95.	UNE Loop Part Migr	Partial migration of multiple loops BTN moving to CLEC			X													Not Applicable		
96.	UNE Loop Supplement Type I (Cancel)				X													Not Applicable		

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario	Directory Listings										Directory Listing Explanation	Maintenance Issue						
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed	Caption	
UNE Loop w/NP Assumption: POTS Only																				
97.	UNE Loop w/NP Full Migr	Full migration of existing multiple loops with NP			X														Not Applicable	
	UNE Loop w/NP Full Migr	Full migration of existing multiple loops with NP + Add a new loop			X														Not Applicable	
99.	UNE Loop w/NP Part Migr	Partial migration of existing loops with NP			X														Not Applicable	Can't receive calls-intra switch
	UNE Loop w/NP Supplement Type 2 (Due Date Change)																		Not Applicable	
100.					X														Not Applicable	
101.	UNE Loop w/NP Supplement Type 3 (All other Changes)				X														Not Applicable	
																			Not Applicable	

SECTION 1: FUNCTIONALITY TEST																				
Scenario #	Order Type	Scenario	Directory Listings										Directory Listing Explanation	Maintenance Issue						
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed	Caption	
UNE NP																				
	UNE NP	Disconnect retail bundled service (multiple lines) and port TNs to CLEC								X										Not Applicable
Change UNE-C (residence)																				
	Change	Add one feature to Res 1 line account with no existing features, no changes to directory listings						X							X					Not Applicable
	Change	Add one feature and remove a feature from Res 1 line account with multiple features, no changes to directory listings						X								X				Not Applicable
	Change	Add 2 new features to resident multiple line account, no changes to directory listings							X							X				Not Applicable
	Change	Remove 1 feature from resident multiple line account with multiple features, no directory change						X								X				Not Applicable
	Change	Remove 1 feature & add a feature to resident multiple line account, no directory change							X								X			Not Applicable
	Change	Change DL name on Res 1 line account with 1 feature						X								X		X		Change listing from main line listed – straight line main listing to main line non-pub
	Change	Change DL name on Res 2 line account with multiple features						X									X	X		Change main line listed straight line main listing name on both line
Change UNE-C (business)																				
	Change	Add one feature to Bus 1 line account with no existing features, no changes to directory listings							X							X				Not Applicable

SECTION 1: FUNCTIONALITY TEST

Scenario #	Order Type	Scenario	Directory Listings										Directory Listing Explanation	Maintenance Issue						
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed	Caption	
	Change	Remove and add one feature from Bus 1 line account with multiple features, no changes to directory listings							X								X		Not Applicable	
	Change	Add two new features to Bus 1 line account with one feature existing							X								X		Not Applicable	
	Change	Add 2 new features to Bus multiple line account, no changes to directory listings								X							X		Not Applicable	
	Change	Remove 1 feature from Bus multiple line account with multiple features, no directory listing changes								X							X		Not Applicable	
	Change	Remove 1 feature & add a feature to Bus multiple line account with one feature, no directory change								X							X		Not Applicable	
	Change	Add one feature and remove a feature from Bus 2 line account, no changes to directory listings								X							X		Not Applicable	
	Change	Change DL name on Bus 1 line account with 1 feature							X								X		Change main line non to main line listed – straight line main list	
	Change	Change DL name on Bus multi-line account with multiple features								X							X		Change main line list straight line main list DL name	
Miscellaneous UNE-C Residence																				
	Disc	Disconnect 1 Res line															X		Not Applicable	
	Disc	Disconnect 2 Res line						X									X		Not Applicable	
	Outside Move	Convert USWC Retail Residence single line to UNE-C with outside move from location A to location B, change DL address																X	Main line listed – straight line main listing	

SECTION 1: FUNCTIONALITY TEST																				
Scenario #		Order Type	Scenario		Directory Listings										Directory Listing Explanation	Maintenance Issue				
					Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line			Non-Published	Dual Name	Additional Listing	Non-listed
Ilaneous UNE-C Business																				
	Disc	Disconnect 1 Bus line																		
	Disc	Disconnect 2 Bus line				X														
	Outside Move	Outside move of Business UNE-C line from location A to location B				X				X									Varies by Line	
	Outside Move	Outside move of business multiple UNE-C line from location A to location B										X							Varies by Line	
	Outside Move	Convert USWC Retail Business multiple line to UNE-C with outside move from location A to location B, change DL address																	Main line listed – straight line main listing	

SECTION 2 – RETAIL PARITY TESTING¹

SECTION 2 – RETAIL PARITY TESTING¹																			
Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue				
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed	Caption
127.	Resale POTS New Connect	New connect for residential customer. Somewhat similar to scenario 64.																	
128.	Retail POTS New Connect	New connect for residential customer																	
129.	Resale POTS New Connect	New connect for small business customer. Somewhat similar to scenario 76.																	
130.	Retail POTS New Connect	New connect for small business customer																	
131.	Resale Pots Conversion as specified	Conversion as specified for residential customer. Somewhat similar to scenario 45.																	
132.	Retail POTS Win Back with Feature Addition	Win back and feature addition for residential customer																	

¹ Details of tests to be determined through the workshop process.

SECTION 2 – RETAIL PARITY TESTING¹

SECTION 2 – RETAIL PARITY TESTING¹																		
Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue			
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed
133.	Resale POTS Conversion as specified	Conversion as specified for small business customer. Somewhat similar to scenario 58.																
134.	Retail POTS Win Back with Feature Addition	Win back and feature addition for small business customer																
135.	Resale POTS Conversion as is	Conversion as is for residential customer. Somewhat similar to scenario 43.																
136.	Retail POTS Win Back	Win back for residential customer																
137.	Resale POTS Conversion as is	Conversion as is for small business customer. Somewhat similar to scenario 56.																
138.	Retail POTS Win Back	Win back for residential customer – no change to account																
139.	Resale POTS Change Order	Change Order for a residential customer. Somewhat similar to scenario 86.																

SECTION 2 – RETAIL PARITY TESTING¹

Scenario #	Order Type	Scenario	Directory Listings												Directory Listing Explanation	Maintenance Issue	
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published	Dual Name			Additional Listing
140.	Retail POTS Change Order	Change Order f or a residential customer															
141.	Resale POTS Change Order	Change Order f or a small business customer. Somewhat similar to scenario 86															
142.	Retail POTS Change Order	Change Order f or a small business customer															
143.	Resale POTS Disconne ct	Disconnect for a residential customer. Somewhat similar to scenario 119.															
144.	Retail POTS Disconne ct	Disconnect for a residential customer															
145.	Resale POTS Disconne ct	Disconnect for a small business customer. Somewhat similar to scenario 119.															
146.	Retail POTS Disconne ct	Disconnect for a small business customer															

SECTION 2 – RETAIL PARITY TESTING¹

Scenario #	Order Type	Scenario	Directory Listings													Directory Listing Explanation	Maintenance Issue
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Single Feature	Multiple Features	Straight Line	Non-Published	Dual Name	Additional Listing		
147.	Unbundled Loop New Connect	New Connect for a small business customer. Somewhat similar to scenario 84.															
148.	Unbundled Loop Conversion As Specified	Conversion as specified for a small business customer															
149.	Unbundled Loop Change Order	Change order for a small business customer. Somewhat similar to scenario 118.															
150.	CLEC LNP	LNP for a residential customer. Somewhat similar to scenario 102.															
151.	Unbundled Loop with LNP	LNP for a small business customer. Somewhat similar to scenario 97.															
152.	Resale POTS Suspend	Suspend Order for a residential customer															
153.	Retail POTS Suspend	Suspend Order for a residential customer															
154.	Resale POTS Restore	Restore Order for a residential customer															

SECTION 2 – RETAIL PARITY TESTING¹

SECTION 2 – RETAIL PARITY TESTING¹																				
Scenario #	Order Type	Scenario	Directory Listings											Directory Listing Explanation	Maintenance Issue					
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature	Multiple Features	Straight Line	Non-Published			Dual Name	Additional Listing	Non-listed	Caption	
155.	Retail POTS Restore	Restore Order for a residential customer																		
156.	Resale Repair Ticket	Create Non-design repair ticket for a residential customer																		
157.	Retail Repair Ticket	Create Non-design repair ticket for a residential customer																		
158.	Resale Repair Ticket	Create Non-design repair ticket for a small business customer																		
159.	Retail Repair Ticket	Create Non-design repair ticket for a small business customer																		
160.	Resale Repair Status	Retrieve non-design repair status for a residential customer																		
161.	Retail Repair Status	Retrieve non-design repair status for a residential customer																		
162.	Resale Repair Status	Retrieve non-design repair status for a small business customer																		
163.	Retail Repair Status	Retrieve non-design repair status for a small business customer																		

SECTION 2 – RETAIL PARITY TESTING¹

Scenario #	Order Type	Scenario	Directory Listings								Directory Listing Explanation	Maintenance Issue				
			Res SL	Res ML	Bus SL	Bus ML	Hunting	EAS	No Features	Singe Feature			Multiple Features	Straight Line	Non-Published	Dual Name
164.	Resale MLT	Run MLT for a small business customer														
165.	Retail MLT	Run MLT for a small business customer														



APPENDIX B

U S WEST's SERVICE PERFORMANCE INDICATORS (Definitions and Formulas)

U S WEST'S SERVICE PERFORMANCE INDICATORS

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U S WEST'S SERVICE PERFORMANCE INDICATORS**CORE INDICATORS****Core Gateway Availability Indicators****Indicator Number: GA-1****Category: Gateway Availability****Measure: Gateway Availability – via Human-to-Computer Interface****Purpose:**

To evaluate the quality of CLEC access to the specified electronic gateway, focusing on the extent to which the gateway is actually available to CLECs.

Description:

Measures the availability of the IMA (Interconnect Mediated Access) interface, reports the percentage of scheduled time the IMA Interface is available for view and/or input.

Formula:

$$\left[\frac{\text{Number of Hours and Minutes Gateway is Available to Competing Carriers During Reporting Period}}{\text{Number of Hours and Minutes Gateway was Scheduled to be Available During Reporting Period}} \right] \times 100$$

Explanation: Percentage is derived from sum of hours and minutes that the interface is actually available for processing divided by scheduled interface availability time.

Indicator Number: GA-2**Category: Gateway Availability****Measure: Gateway Availability – via Computer-to-Computer Interface****Purpose:**

To evaluate the quality of CLEC access to the specified electronic gateway, focusing on the extent to which the gateway is actually available to CLECs.

Note: Currently, no CLECs are using the EDI interface. Results for this indicator will be reported beginning three months following the month in which combined CLEC activity in the state exceeds 1,000 local service requests submitted through the interface.

Description:

Measures the availability of EDI (Electronic Data Interchange) interface, reports the percentage of scheduled time the EDI Interface is available for view and/or input.

Formula:

[Number of Hours and Minutes Gateway is Available to Competing Carriers During Reporting Period/Number of Hours and Minutes Gateway was Scheduled to be Available During Reporting Period] x 100

Explanation: Percentage is derived from sum of hours and minutes that the interface is actually available for processing divided by scheduled interface availability time.

Core Pre-Order/Order Indicators**Indicator Number: PO-1****Category: Pre-Order / Order****Measure: Pre-Order / Order Response Times****Purpose:**

To evaluate the timeliness of CLEC access to U S WEST's operational support systems in carrying out pre-ordering and ordering functions, focusing on specific transaction types through the specified gateway interface.

Description:

Measures the time interval between query and response for specified pre-order/order transactions through IMA. Results will be reported as follows:

PO-1A	Pre-Order/Order Response Time for IMA (CLEC transactions)
PO-1B	Pre-Order/Order Response Time for Exact (both CLEC and retail transactions)
PO-1C	Pre-Order/Order Response Time for EDI (CLEC transactions)

Note: Currently, no CLECs are using the EDI interface. Results for this indicator will be reported beginning three months following the month in which combined CLEC activity in the state exceeds 1,000 local service requests submitted through the interface.

Results will be reported separately for the following transaction types:

1. Appointment Scheduling (Due Date Reservation, where appointment is required)
2. Feature Function and Service Availability Information
3. Facility Availability
4. Street Address Validation
5. Customer Service Records
6. Telephone Number

Formula:
$$\Sigma [(Query Response Date \& Time) - (Query Submission Date \& Time)] / (Number of Queries Submitted in Reporting Period)$$

Explanation: The average response time is calculated by dividing the sum of the individual intervals measured for each query/response transaction measured by the total number of queries measured. A query is an individual request for the specified type of data.

Exclusions:

- None.

CORE ORDERING AND PROVISIONING INDICATORS

With the exception of OP-1 and OP2, results for the following performance indicators will be provided for each standard service grouping, as defined at the end of this exhibit.

Indicator Number: OP-1**Category: Ordering and Provisioning****Measure: Speed of Answer - Interconnect Provisioning Center****Purpose:**

To evaluate the timeliness of CLEC access to U S WEST's interconnection provisioning center(s), focusing on how long it takes for calls to be answered.

Description:

Measures the average time following the first ring to answer calls in the Interconnection Provisioning Center. Abandoned calls are tracked from first ring to time attempt was terminated. Results are provided at a U S WEST level of reporting; neither CLEC- nor state-specific results are available.

Formula:
$$\frac{\Sigma[(\text{Date and Time of Call Answer}) - (\text{Date and Time of First Ring})]}{\text{Total Calls Answered by Center during reporting period.}}$$

Explanation: Average speed of answer is obtained by dividing the sum of all answer times recorded (minutes/seconds) by the total number of calls answered at the center in the reporting period.

Exclusions:

- None.

Indicator Number: OP-2**Category: Ordering and Provisioning****Measure: Calls Answered within twenty seconds - Interconnect Provisioning Center****Purpose:**

To evaluate the timeliness of CLEC access to U S WEST's interconnection provisioning center(s), focusing on the extent to which calls are answered within twenty seconds.

Description:

Measures the percentage of Interconnection Provisioning Center calls that are answered within twenty seconds of the first ring. Abandoned calls are tracked from first ring to the time attempt was terminated. Results are provided at a U S WEST level of reporting; neither CLEC- nor state-specific results are available.

Formula:

$[(\text{Total Calls Answered by Center within 20 seconds}) / (\text{Total Calls Answered by Center})] \times 100$
--

Explanation: Percentage is derived from total number of calls answered within 20 seconds divided by total number of calls received.

Exclusions:

- None.

Indicator Number: OP-3**Category: Ordering and Provisioning****Measure: Installation Commitments Met****Purpose:**

To evaluate the extent to which U S WEST installs services for CLECs by the scheduled due date.

Description:

Measures the percentage of orders for which the scheduled due date is met. Includes (inward) C, N, and T order types. Original due date matched by completion date is counted as a met due date. A due date missed for standard categories of customer reasons is counted as met. All orders assigned a due date by U S WEST are measured, including orders with customer-requested due dates longer than the standard interval and orders with extended due dates assigned in conjunction with lack of facilities.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to orders involving:

- OP-3A Dispatches within MSAs;
- OP-3B Dispatches outside MSAs; and
- OP-3C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to installations:

- OP-3D In High Density areas; and
- OP-3E In Low Density areas.

Formula:

$[(\text{Total Orders completed on Original Due Date}) / (\text{Total Orders Completed})] \times 100$

Explanation: The percent commitments met is obtained by dividing the total number of service orders completed on the original due date by the total number of service orders completed during the measurement period.

Exclusions:

- Orders issued pending Right of Way or customer deposit.
- D, F and R order types.

Indicator Number: OP-4**Category: Ordering and Provisioning****Measure: Installation Interval****Purpose:**

To evaluate the timeliness of U S WEST's installation of services for CLECs, focusing on the average time to install service.

Description:

Measures the average interval (in business days) between the application date and the completion date for service orders accepted and implemented. Includes only (inward) C, N, and T orders.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to orders involving:

- OP-4A Dispatches within MSAs;
- OP-4B Dispatches outside MSAs; and
- OP-4C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to installations:

- OP-4D In High Density areas; and
- OP-4E In Low Density areas.

Formula:
$$\frac{\Sigma[(\text{Order Completion Date \& Time}) - (\text{Order Application Date \& Time})]}{\text{Total Number of Orders Completed}}$$

Explanation: The average installation interval is derived by dividing the sum of installation intervals for all orders (in business days) by total number of service orders completed in the reporting period. A fraction of a day is rounded up or down to the nearest full day. The application date is day zero (0); the day following the application date is day one (1).

Exclusions:

- Orders issued pending Right of Way or customer deposit.
- Orders with customer requested due dates greater than the current standard interval and intervals lengthened due to CLEC- and CLEC's customer-caused delays.
- D, F and R order types.

Indicator Number: OP-5**Category: Ordering and Provisioning****Measure: Installation Trouble Reports****Purpose:**

To evaluate accuracy of ordering and installation of services, focusing on the extent to which trouble reports related to new installations are generated.

Description:

Measures Maintenance/Repair requests received within thirty (30) calendar days of a completed service provisioning order (N, C and T orders only) as a percentage of the total new installation related orders in the reporting period.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to orders involving:

- OP-5A Dispatches within MSAs;
- OP-5B Dispatches outside MSAs; and
- OP-5C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to installations:

- OP-5D In High Density areas; and
- OP-5E In Low Density areas.

Formula:

$$\left[\frac{\text{(Total Number of New Installation-related Trouble Reports received within 30 Calendar Days of Order Completion)}}{\text{(Total Number of New Installation Orders completed in the Reporting Period)}} \right] \times 100$$

Explanation: Percentage is calculated by dividing the total number of new installation-related trouble reports divided by the total number of installation orders received during the reporting period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and “no access.”
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: OP-6**Category: Ordering and Provisioning****Measure: Delayed Days (average)****Purpose:**

To evaluate the extent to which U S WEST is late in installing services for CLECs, focusing on the average number of days that late orders are completed beyond the committed due date.

Description:

Measures the average number of days service is delayed beyond the original due date for reasons attributed to U S WEST.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to orders involving:

- OP-6A Dispatches within MSAs;
- OP-6B Dispatches outside MSAs; and
- OP-6C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to installations:

- OP-6D In High Density areas; and
- OP-6E In Low Density areas.

Formula:
$$\frac{\sum[(\text{Actual Completion Date of late order}) - (\text{Original Due Date of late order})]}{(\text{Total Number of Late Orders})}$$

Explanation: Average delayed days is derived by dividing the sum of all delayed days (associated with late orders) by the total number of orders with missed original due dates. Result is expressed in business days.

Exclusions:

- Orders delayed due to Customer reasons are excluded.

Indicator Number: OP-7**Category: Ordering and Provisioning****Measure: Coordinated Cutover Interval - Unbundled Loop****Purpose:**

To evaluate the timeliness and convenience of coordinated cutovers of unbundled loops, focusing on the time actually involved in disconnecting the loop from the U S WEST network and connecting it for the CLEC to use.

Description:

Measures the average time to complete coordinated unbundled loop cutovers, based on intervals beginning with the "lift" time (when U S WEST disconnects the loop) and ending with the "lay" time (when U S WEST connects the unbundled loop to the CLEC).

Results for this measurement will be reported according to:

- OP-7A Unbundled Loops (without Number Portability); and
- OP-7B Unbundled Loops (associated with LNP).

Formula:
$$\frac{\sum[(\text{"Lay" time}) - (\text{"Lift" time})]}{(\text{Total Number of Coordinated Unbundled Loops Cutovers})}$$

Explanation: The average cutover interval is obtained by dividing the sum of the individual times used for completing coordinated unbundled loop cutovers by the total number of cutovers completed in the reporting period. Unbundled Loop orders included in the formula for OP-7A will be those not associated with number portability, and orders included in the formula for OP-7B will be those associated with LNP. In both cases, only the coordinated cutover interval time of the loop will be reported (i.e., number portability interval, if any, will not be included).

Exclusions:

- CLEC or Customer-caused delays or changes in cutover times.

Indicator Number: OP-8**Category: Ordering and Provisioning****Measure: Coordinated Number Portability Timeliness****Purpose:**

To evaluate the timeliness and convenience of coordinated cutovers of number portability, separately focusing on interim and long term local number portability.

Descriptions:

OP-8A – Coordinated Interim Number Portability (INP) Interval (average): Measures the average time to complete an Interim Number Portability cutover, based on a start time defined as the actual “frame due” time (if coordinated with unbundled loop) or the scheduled time (if no unbundled loop) and an ending time defined as the completion time of the INP activation.

OP-8B – Coordinated Local Number Portability (LNP) Timeliness (percent): Measures the percentage of LNP triggers activated on time, as defined by the completion of the associated unbundled loop cutover (the “lay” time for the loop, as described under indicator OP-7).

Formulas:
$$\text{OP-8A} = \frac{\sum[(\text{“Frame Due” time or Scheduled Time}) - (\text{INP activation time})]}{(\text{Total Number of Coordinated INP Cutovers})}$$
$$\text{OP-8B} = \frac{[(\text{Number of LNP triggers activated before the loop “lay” time})]}{(\text{Total Number of LNP activations completed})} \times 100$$

Explanation: U S WEST controls the start and completion of INP cutovers; whereas, for LNP, U S WEST controls only the activation of LNP triggers and CLECs control the completion of LNP cutovers.

Exclusions:

- CLEC or Customer-caused delays or changes in cutover times.

Indicator Number: OP-9**Category: Ordering and Provisioning****Measure: Combined Coordinated Cutover Interval – Unbundled Loop and
 Number Portability****Purpose:**

To evaluate the combined effect on customer out-of-service time from coordinated cutovers of both unbundled loops and interim number portability.

Description:

Measures the Average time (beginning to end) to complete a coordinated cutover of an unbundled loop combined with Interim Number Portability.

Formulas:

$$\text{OP-9} = \frac{\sum[(\text{Earlier of Loop "Lift" time or INP start time}) - (\text{Later of Loop "Lay" time or INP complete time})]}{(\text{Total Number of Coordinated Unbundled Loop with INP cutovers})}$$

Exclusions:

- CLEC or Customer-caused delays or changes lengthening cutover intervals.

Core Maintenance and Repair Indicators

With the exception of MR-1 and MR-2, results for the following performance indicators will be provided for each standard service grouping, as defined in the list at the end of this exhibit.

Indicator Number: MR-1**Category: Maintenance and Repair****Measure: Speed of Answer – Interconnect Repair Center****Purpose:**

To evaluate timeliness of CLEC access to U S WEST's interconnection repair center(s), focusing on how long it takes for calls to be answered.

Description:

Measures the average time following the first ring to answer calls in the Interconnection Repair Center, which handles Wholesale calls only. Abandoned calls are tracked from first ring to time attempt was terminated. Results are provided at a U S WEST level of reporting; neither CLEC- nor state-specific results are available.

Formula:
$$\Sigma[(\text{Date and Time of Call Answer}) - (\text{Date and Time of First Ring})] / \text{Total Calls Answered by Center.}$$

Explanation: Average Speed of Answer is obtained by dividing the sum of times to answer calls by the total number of calls received.

Exclusions:

- None

Indicator Number: MR-2**Category: Maintenance and Repair****Measure: Calls Answered with 20 seconds – Interconnect Repair Center****Purpose:**

To evaluate of CLEC access to U S WEST's interconnection repair center(s), focusing on the number of calls answered within twenty seconds.

Description:

Measures the percentage of Interconnection Repair Center calls answered within twenty seconds of the first ring. Abandoned calls are tracked from first ring to time attempt was terminated. Results are provided at a U S WEST level of reporting; neither CLEC- nor state-specific results are available.

Formula:

$[(\text{Total Calls Answered by Center within 20 seconds}) / (\text{Total Calls Answered by Center})] \times 100$
--

Explanation: Percentage is derived from total number of calls answered within 20 seconds divided by total number of calls received.

Exclusions:

- None

Indicator Number: MR-3**Category: Maintenance and Repair****Measure: Out of Service Cleared within 24 hours – Non-designed Repair Process****Purpose:**

To evaluate timeliness of repair for non-designed services, focusing on cases where the out of service cases were resolved within the standard estimate for non-designed services (i.e., 24 hours for out-of-service conditions).

Description:

Measures the percent of Non-designed service trouble reports cleared within 24 hours of a call from a CLEC, or from a U S WEST end user retail customer, to U S WEST. Time measured is from date and time of receipt to date and time trouble is indicated as cleared. Includes only out of service (OOS) trouble reports, which are defined as the inability to initiate or receive calls.

Results will be disaggregated and reported according to trouble reports involving:

- MR-3A Dispatches within MSAs;
- MR-3B Dispatches outside MSAs; and
- MR-3C No dispatches.

By December 1999, results for Unbundled Loops will be disaggregated according to trouble reports:

- MR-3D In High Density areas; and
- MR-3E In Low Density areas.

Formula:
$$\frac{(\text{Number of Out of Service Trouble Reports Resolved within 24 hours})}{(\text{Total Number of Out of Service Trouble Reports Received})} \times 100$$

Explanation: Percentage is obtained by dividing the total number of OOS reports resolved within 24 hours by the total number of OOS reports received during the measurement period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and “no access.”
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: MR-4**Category: Maintenance and Repair****Measure: All Troubles cleared within 48 hours – Non-Designed Repair Process****Purpose:**

To evaluate timeliness of repair for non-designed services, focusing on trouble cases of all types (both out of service and service affecting) and on the number of such cases resolved within the standard estimate for non-designed services (i.e., 48 hours for service-affecting conditions).

Description:

Measures the percent of Non-designed service trouble reports cleared within 48 hours of a call from a CLEC, or from a U S WEST end user retail customer, to U S WEST. Time measured is from date and time of receipt to date and time trouble is indicated as cleared. Includes all applicable trouble reports, including those that are out of service and those that are only service-affecting.

Results for non-designed services will be disaggregated and reported according to trouble reports involving:

- MR-4A Dispatches within MSAs;
- MR-4B Dispatches outside MSAs; and
- MR-4C No dispatches.

By December 1999, results for Unbundled Loops will be disaggregated according to trouble reports:

- MR-4D In High Density areas; and
- MR-4E In Low Density areas.

Formula:
$$\left[\frac{\text{(Total Maintenance Reports Completed within 48 hours)}}{\text{(Total Maintenance Reports Received)}} \right] \times 100$$

Percentage is obtained by dividing the total number of reports completed in 48 hours or less by the total number of trouble reports received during the measurement period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and “no access.”
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: MR-5**Category: Maintenance and Repair****Measure: All Troubles Cleared within 4 hours – Designed Repair Process****Purpose:**

To evaluate timeliness of repair for designed services, focusing on all trouble cases of all types (including out of service and service affecting troubles) and on the number of such cases resolved within the standard estimate for designed services (i.e., 4 hours).

Description:

Measures the percentage of trouble reports for designed services that are cleared within four hours of a call from a CLEC, or from a U S WEST end user retail customer, to U S WEST. Time measured is from date and time of receipt to date and time trouble is cleared.

By December 1999, results for designed services (DS0, DS1, DS3, and LIS trunks) will be disaggregated according to trouble reports:

MR-5A In High Density areas; and

MR-5B In Low Density areas.

Formula:

$\frac{[(\text{Number of Trouble Reports Resolved within 4 hours}) / (\text{Total Trouble Reports Received})] \times 100}{}$
--

Explanation: Percentage is obtained by dividing the total number of trouble reports completed in four hours or less by the total number of trouble reports received during the measurement period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and “no access.”
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: MR-6**Category: Maintenance and Repair****Measure: Mean Time to Restore****Purpose:**

To evaluate timeliness of repair, focusing how long it takes to restore services to proper operation.

Description:

Measures the average time to resolve requests for repair. All U S WEST and customer-caused delays (no access, no available work force, etc.) are included. Includes customer direct, customer relayed, and test assist reports.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to repairs involving:

- MR-6A Dispatches within MSAs;
- MR-6B Dispatches outside MSAs; and
- MR-6C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to repairs:

- MR-6D In High Density areas; and
- MR-6E In Low Density areas.

Formula:

$$\frac{\sum[(\text{Date \& Time of Repair Report}) - (\text{Date \& Time of Repair Completion})]}{(\text{Total number of repair reports})}$$

Explanation: Mean Time to Restore is calculated by dividing the sum of time to resolve repair reports received during the measurement period by the total number of repair reports received.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and "no access."
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: MR-7**Category: Maintenance and Repair****Measure: Repair Repeat Report Rate****Purpose:**

To evaluate the accuracy of repair actions, focusing on the number of repeated trouble reports received for the same trouble within a specified period (30 days).

Description:

Measures the percentage of repair reports that are repeated within 30 days. Includes U S WEST network or system caused reports. Includes reports due to U S WEST network or system causes, customer-direct and customer-relayed reports.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to repeat repair reports involving:

- MR-7A Dispatches within MSAs;
- MR-7B Dispatches outside MSAs; and
- MR-7C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to repeat repair reports:

- MR-7D In High Density areas; and
- MR-7E In Low Density areas.

Formula:

$$\frac{\text{(Total repeated repair reports occurring within 30 days of initial trouble report)}}{\text{(Total number of Trouble Reports in the reporting period)}}$$

Explanation: The percentage is calculated by dividing the total number of repeated repair reports received during the measurement period by the total number of trouble reports received during the reporting period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and "no access."
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Indicator Number: MR-8**Category: Maintenance and Repair****Measure: Trouble Rate (Percent)****Purpose:**

To evaluate the overall rate of trouble reports as a percentage of the total installed base of the service or element for which this indicator is reported.

Description:

Measures CLEC-specific trouble report rate of occurrences per 100 lines in service. CLEC must have a minimum of 100 lines in service.

Results for non-designed services (Residence POTS and Business POTS) will be disaggregated and reported according to trouble reports involving:

- MR-8A Dispatches within MSAs;
- MR-8B Dispatches outside MSAs; and
- MR-8C No dispatches.

By December 1999, results for designed services (DS0, DS1, DS3, LIS trunks, and Unbundled Loops) will be disaggregated according to trouble reports:

- MR-8D In High Density areas; and
- MR-8E In Low Density areas.

Formula:
$$[(\text{Total number of trouble reports involving the specified service grouping}) / (\text{Total number of the specified services that are in service in the reporting period})] \times 100$$

Explanation: Percentage is based on total number of reports divided by total number of services that are in service in the reporting period.

Exclusions:

- Trouble reports found to be related to customer equipment, customer education, inside wire, and "no access."
- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Core Billing Indicators**Indicator Number: BI-1****Category:** Billing**Measure:** Mean Time to Provide USW Recorded Usage Records**Purpose:**

To evaluate the timeliness with which USW provides recorded usage records to CLECs.

Description:

Measures the average time interval from date of recorded usage to date usage records are transmitted to CLECs.

Formula:

$\sum(\text{Date Record Transmitted} - \text{Date Usage Recorded}) / (\text{Total number of records})$
--

Exclusions:

- None.

Indicator Number: BI-2

Category: Billing

Measure: Mean Time to Deliver Invoices

Purpose:

To evaluate the timeliness with which USW delivers EDI-formatted bills to CLECs.

Description:

Measures the average number of days between the bill date and bill delivery.

Formula:

$$\frac{\sum(\text{Bill Transmission Date} - \text{Bill Close Date})}{(\text{Total Number of Bills})}$$

Exclusions:

- None.

Indicator Number: BI-3**Category: Billing****Measure: Billing Accuracy – Adjustments for Errors (Under Development)****Purpose:**

To evaluate the accuracy with which U S WEST bills CLECs, focusing on the percentage of billed revenue adjusted due to errors.

Description:

Measures the billed revenue adjusted off bills due to errors, as a percentage of total billed revenue.

Formula:
$$\frac{\sum(\text{Billed Amounts Adjusted for Errors})}{(\text{Total Related Billed Amounts in Reporting Period})}$$
Exclusions:

- None.

Core Emergency Services/9-1-1, Directory Assistance & Operator Services Indicators**Indicator Number: ES-1****Category: Emergency Services****Measure: ALI Data Base Updates Completed within 24 hours****Purpose:**

To evaluate the degree to which batch updates for the ALI database are transmitted for update within the prescribed interval (24 hours).

Description:

Measures the percentage of batch updates to the ALI Database accomplished within 24 hours of new or change service order completion. CLEC-specific results are not available.

Formula:

$[(\text{Total number of ALI Database batch updates transmitted within 24 hours of service order completion}) / (\text{Total number of updates})] \times 100$

Exclusions:

- None.

Indicator Number: ES-2

Category: Emergency Service

Measure: 911/E911 ES Trunk Installation Interval

Purpose:

To evaluate the timeliness of installation of emergency services trunks.

Description:

Measures the average time (in business days) between the application date and the completion date for the 911 or E911 trunk installations ordered. Includes (inward) C, N, and T order types.

Formula:

$\frac{\Sigma[(\text{Order Completion Date \& Time}) - (\text{Order Application Date \& Time})]}{(\text{Total Number of Orders Completed in Reporting Period})}$
--

Explanation: Average interval is calculated by dividing the sum of installation intervals for 911/E911 trunks by the total number of such orders installed in the reporting period. A fraction of a day is rounded up or down to the nearest full day. The application date is day zero (0); the day following the application date is day one (1).

Exclusions:

- D, F, R, and X orders and orders with customer requested due date intervals.

Indicator Number: DA-1**Category: Directory Assistance****Measure: Speed of Answer – Directory Assistance****Purpose:**

To evaluate timeliness of customer access to U S WEST's Directory Assistance operators, focusing on how long it takes for calls to be answered.

Description:

Measures the average time following first ring when a call is first picked up by the (U S WEST) agent to answer Directory Assistance calls. First ring is defined as when the customer's call is first placed in queue by the ACD (Automatic Call Distributor). In order to receive individual CLEC results, the CLEC must make special trunking and workforce arrangements.

Formula:
$$\Sigma[(\text{Date and Time of Call Answer}) - (\text{Date and Time of First Ring})] / (\text{Total Calls Answered by Center})$$

Explanation: Average speed of answer is obtained by dividing the sum of all answer times recorded (minutes/seconds) by the total number of calls answered at the center in a given month.

Exclusions:

- None.

Indicator Number: DA-2**Category: Directory Assistance****Measure: Calls Answered within Ten Seconds – Directory Assistance****Purpose:**

To evaluate timeliness of customer access to U S WEST's Directory Assistance Operators, focusing on the number of calls answered within ten seconds.

Description:

Measures the percent of Directory Assistance calls that are answered within ten seconds of the first ring by the (U S WEST) agent. First ring is defined as when the customer's call is first placed in queue by the ACD (Automatic Call Distributor). In order to receive individual CLEC results, the CLEC must make special trunking and workforce arrangements.

Formula:

$\frac{[(\text{Total Calls Answered by Center within 10 seconds}) / (\text{Total Calls Answered by Center})] \times 100}{}$

Explanation: Percentage is derived from total number of calls answered within 10 seconds divided by total number of calls received.

Exclusions:

- None.

Indicator Number: OS-1**Category: Operator Services****Measure: Speed of Answer – Operator Services****Purpose:**

To evaluate timeliness of customer access to U S WEST's operators, focusing on how long it takes for calls to be answered.

Description:

Measures the average time following first ring when a call is first answered by the U S WEST agent to answer Operator Assisted calls. First ring is defined as when the customer's call is first placed in queue by the ACD (Automatic Call Distributor). In order to receive individual CLEC results, the CLEC must make special trunking and workforce arrangements.

Formula:

$\frac{\sum[(\text{Date and Time of Call Answer}) - (\text{Date and Time of First Ring})]}{(\text{Total Calls Answered by Center})}$
--

Explanation: Average speed of answer is obtained by dividing the sum of all answer times recorded (minutes/seconds) by the total number of calls answered at the center in a given month.

Exclusions:

- None.

Indicator Number: OS-2

Category: Operator Services

Measure: Calls Answered within ten seconds – Operator Services

Purpose:

To evaluate timeliness of customer access to U S WEST's operators, focusing on the number of calls answered within ten seconds.

Description:

Measures the percent of Operator Assisted calls answered within ten seconds of the first ring by the U S WEST agent. First ring is defined as when the customer's call is first placed in queue by the ACD (Automatic Call Distributor). In order to receive individual CLEC results, the CLEC must make special trunking and workforce arrangements.

Formula:

$\left[\frac{\text{(Total Calls Answered by Center within 10 seconds)}}{\text{(Total Calls Answered by Center)}} \times 100 \right]$

Explanation: Percentage is derived from total number of calls answered within 10 seconds divided by total number of calls received.

Exclusions:

- None.

Core Network Performance Indicators**Indicator Number: NI-1****Category: Network Performance – Network Interconnection****Measure: Trunk Blocking – Interconnection Trunks****Purpose:**

To evaluate factors affecting completion of calls from U S WEST end offices to CLEC end offices, focusing on average busy-hour blocking percentages in interconnection final trunks.

Description:

Measures the percentage of trunks blocking in interconnection final trunks, reported by:

NI-1A Interconnection (LIS) trunks to U S WEST tandem offices;

NI-1B Interconnection (LIS) trunks to U S WEST end offices.

Formula:

$\frac{\sum[(\text{Blockage in Final Trunk Group of Specified Type})(\text{Number of Circuits in Trunk Group})]}{(\text{Total Number of Final Trunk Circuits in all Final Trunk Groups})}$
--

Explanation: Actual average percentage of trunk blockage is calculated by dividing the equivalent average number of trunk circuits blocking by the total number of trunk circuits in final trunks of the type being measured. Final trunks are those that do not overflow calls to other trunk types when blocking.

Exclusions:

- Toll trunks, non-final trunks, and trunks that are not connected to the public switched network.

Indicator Number: NI-2**Category: Network Performance – Network Interconnection****Measure: Trunk Blocking – Local Interoffice (“Common”) Trunks****Purpose:**

To evaluate factors affecting completion of calls from U S WEST end offices to other U S WEST end offices, focusing on average busy-hour blocking percentages in local interoffice final trunks.

Description:

Measures the percentage of trunks blocking in local interoffice final trunks, reported by:

NI-2A Trunks connecting U S WEST end offices to U S WEST tandem offices;

NI-2B Trunks connecting U S WEST end offices to other U S WEST end offices.

Formula:

$$\frac{\sum[(\text{Blockage in Final Trunk Group of Specified Type})(\text{Number of Circuits in Trunk Group})]}{(\text{Total Number of Final Trunk Circuits in all Final Trunk Groups})}$$

Explanation: Actual average percentage of trunk blockage is calculated by dividing the equivalent average number of trunk circuits blocking by the total number of trunk circuits in final trunks of the type being measured. Final trunks are those that do not overflow calls to other trunk types when blocking.

Exclusions:

- Toll trunks, non-final trunks, and trunks that are not connected to the public switched network.

Core Collocation Indicators**Indicator Number:** CP-1**Category:** Collocation Provisioning**Measure:** Installation Commitments Met**Purpose:**

To evaluate the extent to which U S WEST completes collocation arrangements for CLECs as scheduled or promised. Original due date matched by completion date is counted as a met due date. A due date missed for standard categories of reasons is counted as met. All collocations assigned a due date by U S WEST are measured, including those with CLEC-requested due dates longer than the standard interval and those with extended due dates negotiated with the CLEC.

Description:

Measures the percentage of collocation orders for which the committed due date is met. Results for this indicator will be disaggregated and reported as follows:

- A. Physical Collocations; and
- B. Virtual Collocation.

Formula:
$$\frac{[(\text{Total Orders completed on Original Due Date}) / (\text{Total Number of Orders Issued})] \times 100}{100}$$
Exclusions:

- None.

Indicator Number: CP-2

Category: Collocation Provisioning

Measure: Installation Interval

Purpose:

To evaluate the timeliness of U S WEST's installation of collocation arrangements for CLECs, focusing on the average time to complete such arrangements.

Description:

Measures the interval between the receipt of the down payment from the CLEC and the completion of the collocation installation, expressed in calendar days. Results will be disaggregated and reported as follows:

- A. Physical Collocations; and
- B. Virtual Collocations.

Formula:

$\frac{\sum[(\text{Collocation Completion Date}) - (\text{Collocation Down Payment Date})]}{(\text{Total Number of Collocations Completed in Reporting Period})}$

Exclusions:

- CLEC orders involving requests for due dates beyond the standard interval; CLEC-caused due date misses.

DIAGNOSTIC INDICATORS

Diagnostic Pre-order/Order Indicators**Indicator Number: DPO-1****Category: Pre-Order / Order****Measure: Electronic Flow-through of Local Service Requests (LSRs) to the Service Order Processor****Purpose:**

To monitor the extent to which U S WEST's processing of CLEC LSRs is completely electronic, focusing on the degree to which electronically-transmitted LSRs flow directly to the service order processor without human intervention or without manual retyping. To make available diagnostic information to help address potential issues that might be raised by the core performance indicators of commitments met and installation intervals.

Description:

Measures the percentage of all electronic LSRs that flow from the specified electronic gateway interface to the Service Order Processor (SOP) without rejection or error and without any human intervention.

Results for this indicator will be reported according to the gateway interface used to submit the LSR:

DPO-1A	LSRs received via IMA
DPO-1B	ASR/LSRs received via Exact
DPO-1C	LSRs received via EDI

Formula:

$\frac{[(\text{Number of Electronic LSRs that pass from the Gateway Interface to the SOP as specified}) / (\text{Total Number of Electronic LSRs pass through the Gateway Interface})] \times 100}{}$

Exclusions:

- Rejected LSRs, non-electronic LSRs (e.g., via fax or courier).

Indicator Number: DPO-2**Category: Pre-Order / Order****Measure: LSR Rejection Notice Interval****Purpose:**

To monitor the timeliness with which U S WEST notifies CLECs that electronic LSRs have been rejected, to make available diagnostic information to help address potential issues that might be raised by the core pre-order/order performance indicators.

Description:

Measures the interval (in business days) between the receipt of an electronic Local Service Request (LSR) and the rejection of the LSR for standard categories of errors/reasons. Standard reasons for rejection include: missing/incomplete information; duplicate LSR; no valid contract; no valid end user verification; and miscellaneous CLEC data provisioning process errors. CLEC, U S WEST, and state specific results are available. Included in the interval is time required for efforts by U S WEST to work with the CLEC to avoid the necessity of rejecting the LSR.

Results for this indicator will be reported according to the gateway interface used to submit the LSR:

DPO-2A	LSRs received via IMA
DPO-2B	ASR/LSRs received via Exact
DPO-2C	LSRs received via EDI

Formula:

$\frac{\sum [(Date and time of Rejection Notice transmittal) - (Data and time of LSR receipt)]}{(Total number of LSR Rejection Notifications)}$

Exclusions:

- Non-electronic LSRs.

Indicator Number: DPO-3**Category: Pre-Order / Order****Measure: LSRs Rejected****Purpose:**

To monitor the extent to which electronic LSRs are rejected, as a percentage of all electronic LSRs to make available diagnostic information to help address potential issues that might be raised by the diagnostic indicator of LSR rejection notice intervals.

Description:

Measures the percentage of electronic LSRs rejected (returned to the CLEC) for standard categories of errors/reasons. Reasons for rejection include: missing/incomplete information; duplicate ASR/LSR; no valid contract; no valid end user verification; and miscellaneous CLEC data provisioning process errors.

Results for this indicator will be reported according to the gateway interface used to submit the LSR:

DPO-3A	LSRs received via IMA
DPO-3B	ASR/LSRs received via Exact
DPO-3C	LSRs received via EDI

Formula:

$[(\text{Total number of LSRs rejected}) / (\text{Total number of LSRs received})] \times 100$
--

Exclusions:

- Non-electronic LSRs.

Indicator Number: DPO-4**Category: Pre-Order / Order****Measure: Firm Order Confirmation (FOC) Interval****Purpose:**

To monitor the timeliness with which U S WEST returns FOCs to CLECs, to make available diagnostic information to help address potential issues that might be raised by the core performance indicators of commitments met and installation intervals.

Description:

Measures the average time for U S WEST to provide a Firm Order Confirmation (FOC) in response to a customer LSR received from the CLEC. The interval measured is the period between U S WEST's receipt of the LSR and U S WEST's response with a FOC notification. FOC notifications measured are those associated with installation orders completed in the reporting period.

Results for this indicator will be reported according to the electronic gateway interface or manual method used to submit the LSR:

DPO-4A	LSRs received via IMA
DPO-4B	LSRs received via Exact
DPO-4C	LSRs received via EDI
DPO-4D	LSRs received via Facsimile

Formula:
$$\Sigma[(\text{Date and Time of FOC Notification}) - (\text{Date and Time of LSR Receipt})] / (\text{Total Number of FOC Notifications transmitted}).$$
Exclusions:

- None.

Indicator Number: DPO-5**Category: Pre-Order / Order****Measure: Pre-Order / Order Response Times for U S WEST Retail Transactions****Purpose:**

To report the timeliness of retail service representative access to U S WEST's operational support systems in carrying out pre-ordering and ordering functions, focusing on specific transaction types.

Description:

Measures the time interval between query and response for specified pre-order/order transactions through U S WEST's retail pre-order/ordering systems. Results are reported separately for the following transaction types:

1. Appointment Scheduling (Due Date Reservation, where appointment is required)
2. Feature Function and Service Availability Information
3. Facility Availability
4. Street Address Validation
5. Customer Service Records
6. Telephone Number

Formula:
$$\Sigma[(\text{Query Response Date \& Time}) - (\text{Query Submission Date \& Time})] / \text{Number of Queries Submitted in Reporting Period, where Query} = \text{Individual Request for data.}$$
Exclusions:

- None.

Indicator Number: DPO-6**Category: Pre-Order / Order****Measure: Order Completion Notifications Transmitted within 24 hours
(Under Development)****Purpose:**

To report the timeliness of completion notifications, focusing on the percentage of notifications transmitted within 24 hours of the date and time orders are completed.

Description:

Measures the number of completion notifications transmitted within 24 hours as a percentage of all orders completed in the reporting period:

Note: This performance indicator is under development for November 1999.

Formula:

$[(\text{Total Number of Completion Notifications Transmitted within 24 hours}) / (\text{Total Number of Orders Completed})] \times 100$
--

Explanation: The percentage is calculated by dividing the number of completion notifications transmitted to CLECs within 24 hours by the total number of orders completed in the reporting period.

Exclusions:

- None.

Indicator Number: DPO-7**Category: Pre-Order / Order****Measure: Order Completion Notification Interval (Under Development)****Purpose:**

To report the timeliness of completion notifications, focusing on the time it takes for such notifications to be transmitted to CLECs.

Description:

Measures the time interval between order fulfillment and transmission of the completion notification to the CLEC.

Note: This performance indicator is under development for November 1999.

Formula:

$\frac{\Sigma[(\text{Date \& Time of Completion Notice was Transmitted}) - (\text{Date \& Time the Order was Completed})]}{\text{Number of Orders Completed}}$
--

Explanation: The average notification interval is calculated by dividing the sum of the individual intervals measured for completion notification by the total number of orders completed in the reporting period.

Exclusions:

- None.

Diagnostic Ordering and Provisioning Indicators**Indicator Number: DOP-1****Category: Ordering and Provisioning****Measure: CLEC or CLEC's Customer-caused Installation Misses****Purpose:**

To evaluate the extent to which installation misses were caused by CLEC or CLEC's Customer, to make available diagnostic information to help address potential issues that might be raised by the core performance indicators of commitments met and installation intervals.

Description:

Measures the percentage of installation commitments missed for CLEC or CLEC's customer's reasons. State-specific results will be reported for individual CLEC, aggregate CLECs, and U S WEST retail customers.

Formula:

(Orders where installation commitment is missed due to CLEC or CLEC's customer's reasons) / (Total number of orders completed during the period)

Exclusions:

- U S WEST-caused misses (which are reflected in commitments met indicators), orders issued pending: Right of Way; facilities; or customer deposit are excluded.

Indicator Number: DOP-2**Category: Ordering and Provisioning****Measure: Percent Delayed Orders Completed more than 15 days past the commitment date****Purpose:**

To evaluate the extent to which delayed order completions were late beyond a specified interval (15 days), to make available diagnostic information to help address potential issues that might be raised by the core performance indicators of delayed days.

Description:

Measures the percentage of orders for which service is delayed more than fifteen days beyond the original due date for reasons attributed to U S WEST. State-specific results will be reported for individual CLEC, aggregate CLECs, and U S WEST retail customers.

Formula:

$\frac{\text{(Number of Orders Completed more than 15 days late)}}{\text{(Total Number of Late Orders Completed in the Reporting Period)}}$

Exclusions:

- CLEC or CLEC's Customer-caused delays. Orders issued pending: Right of Way; facilities; or customer deposit are excluded.

Indicator Number: DOP-3**Category: Ordering and Provisioning****Measure: Percent Delayed Orders Completed more than 90 days past the commitment date****Purpose:**

To evaluate the extent to which delayed order completions were late beyond a specified interval (90 days), to make available diagnostic information to help address potential issues that might be raised by the core performance indicators of delayed days.

Description:

Measures the percentage of orders for which service is delayed more than ninety days beyond the original due date for reasons attributed to U S WEST. State-specific results will be reported for individual CLEC, aggregate CLECs, and U S WEST retail customers.

Formula:

$\frac{\text{(Number of Orders Completed more than 90 days late)}}{\text{(Total Number of Late Orders Completed in the Reporting Period)}}$

Exclusions:

- CLEC or CLEC's Customer-caused delays, Orders issued pending: Right of Way; facilities; or customer deposit are excluded.

Diagnostic Maintenance and Repair Indicator**Indicator Number: DMR-1****Category: Maintenance and Repair****Measure: CLEC or CLEC's Customer-caused Trouble Reports****Purpose:**

To evaluate the extent to which trouble reports were caused by CLEC or CLEC's Customer, to make available diagnostic information to help address potential issues that might be raised by the core maintenance and repair performance indicators.

Description:

Measures the percentage of all trouble reports that occur due to CLEC or CLEC end user customer action. State-specific results will be reported for individual CLECs, aggregate CLECs, U S WEST retail customers.

Formula:

$\frac{\text{(Number of Trouble Reports caused by CLEC or CLEC's customer)}}{\text{(Total Number of Trouble Reports)}}$

Exclusions:

- Third party reports and reports assigned to outside causes (e.g., non-U S WEST pole damage).

Diagnostic Collocation Provisioning Indicators**Indicator Number: DCP-1****Category: Collocation Provisioning****Measure: CLEC Caused Collocation Misses****Purpose:**

To evaluate the extent to which collocation installation due date misses were caused by CLEC, to make available diagnostic information to help address potential issues that might be raised by the core collocation provisioning performance indicators.

Description:

Measures the percentage of CLEC-caused installation commitment misses. State-specific results will be reported for individual CLECs and aggregate CLECs.

Results will be reported as follows:

- A. DCP-1A Physical Collocation
- B. DCP-1B Virtual Collocation

Formula:

(Number of Collocation Misses caused by CLEC) / (Total Number of Collocations Completed)

Exclusions:

- U S WEST-caused Collocation misses.

Indicator Number: DCP-2**Category: Collocation Provisioning****Measure: Average Collocation Feasibility Study Interval****Purpose:**

To evaluate the timeliness of the U S WEST sub-process function of providing a collocation feasibility study to the CLEC, to make available diagnostic information for use in conjunction with the core collocation provisioning performance indicators.

Description:

Measures average interval to respond to Central Office collocation studies for feasibility of installation. Feasibility studies included are those associated with collocation arrangements completed in the reporting period. State-specific results will be reported for individual CLEC and aggregate CLECs.

Results will be reported as follows:

- A. DCP-2A Physical Collocation
- B. DCP-2B Virtual Collocation

Formula:

$\frac{\Sigma[(\text{Date of Feasibility Study completion}) - (\text{Date of receipt of CLEC request for Feasibility Study})]}{(\text{Total number of requests received for Feasibility Studies})}$

Exclusions:

Studies delayed for customer reasons.

Indicator Number: DCP-3**Category: Collocation Provisioning****Measure: Collocation Feasibility Study Commitments Met****Purpose:**

To evaluate the degree to which U S WEST met its stated commitment in the sub-process function of providing a collocation feasibility study to the CLEC, to make available diagnostic information for use in conjunction with the core collocation provisioning performance indicators.

Description:

Measures the percentage of Central Office collocation studies for feasibility of installation that are completed within the allotted time frame for such studies. Feasibility studies included are those associated with collocation arrangements completed in the reporting period. State-specific results will be reported for individual CLECs and aggregate CLECs.

Results will be reported as follows:

- A. DCP-3A Physical Collocation
- B. DCP-3B Virtual Collocation

Formula:
$$\left[\frac{\text{(Total Collocation Feasibility studies completed in agreed-upon timeframe)}}{\text{(Total Collocation Feasibility studies completed)}} \right] \times 100$$
Exclusions:

- Studies delayed for customer reasons are counted as met.

Indicator Number: DCP-4**Category: Collocation Provisioning****Measure: Average Collocation Quote Interval****Purpose:**

To evaluate the timeliness of the U S WEST sub-process function of providing a collocation quote commitment to the CLEC, to make available diagnostic information for use in conjunction with the core collocation provisioning performance indicators.

Description:

Measures the average interval to respond to Central Office collocation studies with quote commitments. Quotes included are those associated with collocation arrangements completed in the reporting period. State-specific results will be reported for individual CLECs and aggregate CLECs.

Results will be reported as follows:

- A. DCP-4A Physical Collocation
- B. DCP-4B Virtual Collocation

Formula:
$$\frac{\Sigma[(\text{Date of Quote delivery to CLEC}) - (\text{Date of receipt of CLEC request for Collocation quote})]}{(\text{Total number of requests received for Collocation quotes})}$$
Exclusions:

- Quotes delayed for customer reasons.

Diagnostic Network Performance Indicators**Indicator Number: DNI-1****Category:** Network Performance – Network Interconnection**Measure:** (indicator number reserved for future use)**Indicator Number: DNI-2****Category:** Network Performance – Network Interconnection**Measure:** Local Interconnection Final Trunk Group Utilization**Purpose:**

To monitor utilization levels on interconnection final trunks, to make available diagnostic information for use in conjunction with core network interconnection performance indicators.

Description:

Measures the interconnection trunks in use as a percentage of total interconnection trunks installed.

Formula:

$(\text{Number of final trunks required}) / (\text{Total number of final trunks in service})$

Exclusions:

- Toll trunks, non-final trunks, and trunks that are not connected to the public switched network.

Indicator Number: DNP-1**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks Provisioned by Scheduled Date
(Percent)****Purpose:**

To monitor the degree to which U S WEST local interoffice trunks are completed by the scheduled date, to make available comparative diagnostic information for use in conjunction with core network performance indicators relating to commitments met.

Description:

Measures the number of U S WEST internal provisioning requests for trunk augmentation/installation that are completed by the scheduled date as a percentage of total requests.

Formula:

(Number of U S WEST internal provisioning request for augmentation or installation completed by the scheduled date) / (Total number of U S WEST internal provisioning requests for augmentation or installation)

Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNP-2**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks Provisioning Interval (average)****Purpose:**

To monitor installation intervals of U S WEST local interoffice trunks, to make available comparative diagnostic information for use in conjunction with core network performance indicators.

Description:

Measures the interval between the completion of a U S WEST internal provisioning request for trunk augmentation/installation and fulfillment of the request. The result will be reported as an average based on the number of days required to complete provisioning of the trunks.

Formula:

$\frac{\sum[(\text{Completion Date for U S WEST internal request for trunk augmentation or provisioning}) - (\text{Request Date for U S WEST internal request for trunk augmentation or provisioning})]}{(\text{Total number of U S WEST internal requests for trunk augmentation or provisioning})}$

Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNP-3**Category:** Network Performance – U S WEST Network**Measure:** U S WEST Local Interoffice Trunk Provisioning Late Days
(Average)**Purpose:**

To monitor the time extent to which U S WEST local interoffice trunks are completed late (i.e., beyond the scheduled date), to make available comparative data for evaluating core Network Performance indicators.

Description:

Measures the number of days beyond the scheduled date that U S WEST internal provisioning request for trunk augmentation/installation are completed.

Formula:
$$\frac{\sum[(\text{Completion Date for U S WEST internal request for trunk augmentation or provisioning}) - (\text{Scheduled Date for U S WEST internal request for trunk augmentation or provisioning})]}{(\text{Total number of late U S WEST internal requests for trunk augmentation or provisioning})}$$
Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNR-1**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks Mean Time to Restore****Purpose:**

To monitor timeliness of repair of U S WEST local interoffice trunks, focusing how long it takes to restore trunks to proper operation, to provide reference information for evaluating results reported for core interconnection repair performance indicators.

Description:

Measures the average time to resolve troubles identified in U S WEST local interoffice trunks.

By December 1999, results will be disaggregated according to trunk troubles resolved:

DNR-1A In High Density areas; and

DNR-1B In Low Density areas.

Formula:
$$\frac{\sum[(\text{Date \& Time Trouble Identified in local interoffice trunk}) - (\text{Date \& Time of Repair Completion})]}{(\text{Total number of repair reports for local interoffice trunks})}$$
Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNR-2**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks All Troubles Cleared within 4 hours****Purpose:**

To monitor timeliness of repair for U S WEST local interoffice trunks, focusing on all troubles (both out of service and service affecting) and on the number of such cases resolved within 4 hours, to provide reference information for evaluating results reported for core interconnection repair performance indicators.

Description:

Measures the percentage of all trouble reports for U S WEST local interoffice trunks that are cleared within four hours of the trouble being identified.

By December 1999, results will be disaggregated according to trouble reports:

DNR-2A In High Density areas; and

DNR-2B In Low Density areas.

Formula:

$\frac{[(\text{Number of Trouble Reports for local interoffice trunks resolved within 4 hours}) / (\text{Total Trouble Reports identified for local interoffice trunks})] \times 100}{}$
--

Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNR-3**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks Repeated Trouble Incidents within 30 days****Purpose:**

Measures trouble incidents affecting U S WEST local interoffice trunks experienced within thirty (30) calendar days of an initial trouble incident, as a percentage of the total trouble incidents in the reporting period, to provide reference information for evaluating results reported for core interconnection performance indicators.

Description:

Measures the percentage of trouble incidents involving local interoffice trunks that are repeated within 30 days of an initial trouble incident on the same trunk(s).

By December 1999, results will be disaggregated according to repeat repair reports:

- DNR-3A In High Density areas; and
- DNR-3B In Low Density areas.

Formula:

$$\left[\frac{\text{(Total Number of Trouble Reports received within 30 Calendar Days of an initial Trouble Report)}}{\text{(Total Number of Trouble Reports)}} \right] \times 100$$

Exclusions:

- Toll trunks and trunks that are not connected to the public switched network.

Indicator Number: DNR-4**Category: Network Performance – U S WEST Network****Measure: U S WEST Local Interoffice Trunks Trouble Rate (percent)****Purpose:**

To evaluate the overall rate of trouble reports as a percentage of the total installed base of interoffice trunks in service.

Description:

Measures trouble report rate of occurrences per 100 trunk circuits in service.

By December 1999, results will be disaggregated according to trouble reports:

DNR-4A In High Density areas; and

DNR-4B In Low Density areas.

Formula:
$$[(\text{Total number of trouble reports for local interoffice trunks}) / (\text{Total number of local interoffice trunks that are in service in the reporting period})] \times 100$$
Exclusions:

- Subsequent trouble reports (i.e., redundant reports for the same trouble before it is resolved).
- Trouble reports generated for internal U S WEST system/network monitoring purposes.

Standard Service Groupings

Resale

- Residence POTS
- Business POTS
- Centrex
- ISDN – Basic “POTS”
- ISDN – Basic Designed
- ISDN – Primary
- Digital Switched Service (DSS)
- Direct Inward Dialing (DID)
- PBX Trunks
- DS0
- DS1
- DS3

Interconnection and Other Services

- Local Interconnection Trunks (LIS Trunks)
- Interim Number Portability
- Local Number Portability (under development)

Unbundled Network Elements

- Unbundled Loop
- Unbundled Dedicated Interoffice Transport (UDIT)
- Unbundled Switch

Types of Orders

C = Change in existing service or billing number.

D = Total disconnect of service.

F = From the outward service associated with a transfer (To or “T”) of service from one address to another.

N = New connection for service.

R = Record order; record change only. (For Resale services, service migrations without changes for non- designed services are record orders.)

T = To or transfer of service from one address to another.

X = U S WEST initiated internal work order

APPENDIX C

PERFORMANCE MEASURES

(Used in Functionality and Capacity Tests)

PERFORMANCE MEASURES

1. MEASURES USED IN FUNCTIONALITY AND CAPACITY TESTS

<u>Measure Number</u>	<u>Description</u>	<u>Functionality Test</u>		<u>Capacity Test</u>
		<u>OSS Only</u>	<u>End-to-End</u>	
PO-1	Pre-Order/Order Response Times	Yes	No	Yes
GA-1	Gateway Availability – Human-to-Computer Interface (percent)	Yes	No	No
GA-2	Gateway Availability – Computer-to-Computer Interface (percent)	Yes	No	No
DPO-4	FOC Interval (average)	Yes	No	Yes
DPO-6	Completion Notifications Transmitted within 24 hours (percent)	Yes	No	No
DPO-7	Completion Notification Interval (average)	Yes	No	No
DPO-2	LSR Rejection Notice Interval (average)	Yes	No	Yes
DPO-3	LSRs Rejected (percent)	Yes	No	Yes
DPO-1	Electronic Flow-through of LSRs to SOP (percent)	Yes	No	Yes
BI-1	Mean Time to Provide U S WEST-Recorded Usage Records (average)	Yes	No	No
BI-2	Mean Time to Deliver Invoices (average)	No	Yes	No
BI-3	Billing Accuracy – Adjustments for Errors	No	Yes	No
OP-1	Speed of Answer – Interconnect Provisioning Center (average)	No	Yes	No
MR-1	Speed of Answer – Interconnect Repair Center (average)	No	Yes	No
OP-3	Installation Commitments Met (percent)	No	Yes	No
OP-4	Installation Interval (average)	No	Yes	No
DOP-1	CLEC- or CLEC's Customer-Caused Installation Misses (percent)	No	Yes	No
OP-6	Delayed Days (average)	No	Yes	No
DOP-2	Delayed Orders Completed \geq 15 days past the commitment date (percent)	No	Yes	No
DOP-3	Delayed Orders Completed \geq 90 days past the commitment date (percent)	No	Yes	No
OP-5	Installation Trouble Reports (percent)	No	Yes	No
MR-3	Out of Service Cleared within 24 hours – Non-Designed Repair Process (percent)	No	Yes	No
MR-4	All Troubles Cleared within 48 hours – Non-Designed Repair Process (percent)	No	Yes	No
MR-5	All Troubles Cleared within 4 hours – Designed Repair Process (percent)	No	Yes	No
MR-6	Mean Time to Restore (average)	No	Yes	No
MR-7	Repair Repeat Report Rate (percent)	No	Yes	No
MR-8	Trouble Rate (percent)	No	Yes	No

2. MEASURES NOT USED IN FUNCTIONALITY AND CAPACITY TESTS**Ordering and Provisioning**

<u>Measure Number</u>	<u>Description</u>
OP-2	Calls Answered within Twenty Seconds – Interconnect Provisioning Center (percent)
OP-7A	Coordinated Cutover Interval – Unbundled Loop (without Number Portability) (average)
OP-7B	Coordinated Cutover Interval – Unbundled Loops (associated with LNP)
OP-8A	Coordinated Cutover Interval – Interim Number Portability (INP) (average)
OP-8B	Coordinated Local Number Portability (LNP) Timeliness (percent)
OP-9	Coordinated Cutover Combined Interval – Unbundled Loops coordinated with INP (average)

Maintenance & Repair

<u>Measure Number</u>	<u>Description</u>
MR-2	Calls Answered within 20 seconds – Interconnect Repair Center (percent)

Emergency Services

<u>Measure Number</u>	<u>Description</u>
ES-1	ALI Database Updates Completed within 24 hours (percent)
ES-2	911/E911 Emergency Services Trunk Installation Interval (average)

Directory Assistance

<u>Measure Number</u>	<u>Description</u>
DA-1	Speed of Answer – Directory Assistance (average)
DA-2	Calls Answered Within Ten Seconds – Directory Assistance (percent)

Operator Services

<u>Measure Number</u>	<u>Description</u>
OS-1	Speed of Answer – Operator Services (average)
OS-2	Calls Answered Within Ten Seconds – Operator Services (percent)

Network Performance – Network Interconnection

<u>Measure Number</u>	<u>Description</u>
NI-1	Trunk Blocking – Interconnection Trunks (percent)
NI-2	Trunk Blocking – Local Interoffice (“Common”) Trunks (percent)

Collocation Provisioning

<u>Measure Number</u>	<u>Description</u>
CP-1	Installation Commitments Met (percent)
CP-2	Installation Interval (average)

Pre-Order/Ordering

<u>Measure Number</u>	<u>Description</u>
DPO-5	Pre-Order/Order Response Times for U S WEST Retail Transactions (average)

Maintenance & Repair

<u>Measure Number</u>	<u>Description</u>
DMR-1	CLEC- or CLEC's Customer-Caused Trouble Reports (percent)

Collocation Provisioning

<u>Measure Number</u>	<u>Description</u>
DCP-1	CLEC Caused Collocation Misses (percent)
DCP-2	Collocation Feasibility Study Interval (average)
DCP-3	Collocation Feasibility Study Commitments Met (percent)
DCP-4	Average Collocation Quote Interval (percent)

Network Performance

<u>Measure Number</u>	<u>Description</u>
DNI-1	(indicator number reserved for future use)
DNI-2	Local Interconnection Final Trunk Group Utilization (average)
DNP-1	U S WEST Local Interoffice Trunks Provisioned by Scheduled Date (percent)
DNP-2	U S WEST Local Interoffice Trunks Provisioning Interval (average)
DNP-3	U S WEST Local Interoffice Trunks Provisioning Late Days (average)
DNR-1	U S WEST Local Interoffice Trunks Mean Time to Restore (average)
DNR-2	U S WEST Local Interoffice Trunks All Troubles Cleared within 4 hours (percent)
DNR-3	U S WEST Local Interoffice Trunks Repeated Trouble Incidents within 30 days (percent)
DNR-4	U S WEST Local Interoffice Trunks Trouble Rate (percent)

APPENDIX D

RECOMMENDED BENCHMARKS FOR PERFORMANCE MEASURES

RECOMMENDED BENCHMARKS FOR PERFORMANCE MEASURES¹

<u>NO.</u>	<u>MEASUREMENT</u>	<u>U S WEST</u>	<u>JOINT INTERVENORS²</u>	<u>OTHER</u>	<u>STAFF</u>
<u>PERFORMANCE MEASUREMENTS</u>					
	<u>Pre-Order</u>				
PO-1	Pre-Order/Order Response Times				
	1A. IMA (CLEC Transaction)				
	1B. Exact (CLEC & Retail)				
	1C. EDI (CLEC Transaction)				
	<u>Gateway Availability</u>				
GA-1	Gateway Availability				
	– Human/Computer Interface (IMA)				
GA-2	Gateway Availability				
	– Computer/Computer Interface (EDI)				
	<u>Ordering and Provisioning</u>				
OP-1	Speed of Answer – Interconnect Provisioning Center (average)				
OP-2	Calls Answered within Twenty Seconds – Interconnect Provisioning Center (percent)				
OP-3	Installation Commitments Met (percent)				
OP-4	Installation Interval (average)				
OP-5	Installation Trouble Reports (percent)				
OP-6	Delayed Days (average)				
OP-7A	Coordinated Cutover Interval – Unbundled Loop (without Number Portability) (average)				
OP-7B	Coordinated Cutover Interval – Unbundled Loops (associated with LNP)				
OP-8A	Coordinated Cutover Interval – Interim Number Portability				

¹ Per decision N. 61837, dated July 21, 1999, Docket No. T-00000A-97-0238, 271 standards will be developed collaboratively through the forthcoming workshops and Staff will file a report thereof no later than October 15, 1999.

² Joint Intervenor Includes: AT&T, TCG, MCI, Sprint, Nextlink, ELI, ACI, Espire.

	(INP) (average)						
OP-8B	Coordinated Local Number Portability (LNP) Timeliness (percent)						
OP-9	Coordinated Cutover Combined Interval – Unbundled Loops coordinated with INP (average)						
	<u>Maintenance & Repair</u>						
MR-1	Speed of Answer – Interconnect Repair Center (average)						
MR-2	Calls Answered within 20 seconds – Interconnect Repair Center (percent)						
MR-3	Out of Service Cleared within 24 hours – Non-Designed Repair Process (percent)						
MR-4	All Troubles Cleared within 48 hours – Non-Designed Repair Process (percent)						
MR-5	All Troubles Cleared within 4 hours – Designed Repair Process (percent)						
MR-6	Mean Time to Restore (average)						
MR-7	Repair Repeat Report Rate (percent)						
MR-8	Trouble Rate (percent)						
	<u>Billing</u>						
BI-1	Mean Time to Provide U S WEST-Recorded Usage Records (average)						
BI-2	Mean Time to Deliver Invoices (average)						
BI-3	Billing Accuracy – Adjustments for Errors (under development)						
	<u>Emergency Services</u>						
ES-1	ALI Data base Updates Completed within 24 hours (percent)						
ES-2	911/E911 Emergency Services Trunk Installation Interval (average)						
	<u>Directory Assistance</u>						

DA-1	Speed of Answer – Directory Assistance (average)				
DA-2	Calls Answered Within Ten Seconds – Directory Assistance (percent)				
	Operator Services				
OS-1	Speed of Answer – Operator Services (average)				
OS-2	Calls Answered Within Ten Seconds – Operator Services (percent)				
	Network Performance – Network Interconnection				
NI-1	Trunk Blocking – Interconnection Trunks (percent)				
NI-2	Trunk Blocking – Local Interoffice (“Common”) Trunks (percent)				
	Collocation Provisioning				
CP-1	Installation Commitments Met (percent)				
CP-2	Installation Interval (average)				
<u>DIAGNOSTIC PERFORMANCE INDICATORS</u>					
	<u>Pre-Order/Ordering</u>				
DPO-1	Electronic Flow-through of Local Service Requests (LSRs) to the Service Order Processor (percent)				
DPO-2	LSR Rejection Notice Interval (average)				
DPO-3	LSRs Rejected (percent)				
DPO-4	Firm Order Confirmation (FOC) Interval (average)				
DPO-5	Pre-Order/Order Response Times for U S WEST Retail Transactions (average)				
DPO-6	Completion Notifications Transmitted within 24 hours (percent) (under development)				
DPO-7	Completion Notification Interval (average) (under development)				
	<u>Ordering and Provisioning</u>				

DOP-1	CLEC- or CLEC's Customer-Caused Installation Misses (percent)					
DOP-2	Delayed Orders Completed \geq 15 days past the commitment date (percent)					
DOP-3	Delayed Orders Completed \geq 90 days past the commitment date (percent)					
	Maintenance & Repair					
DMR-1	CLEC- or CLEC's Customer-Caused Trouble Reports (percent)					
	Collocation Provisioning					
DCP-1	CLEC Caused Collocation Misses (percent)					
DCP-2	Collocation Feasibility Study Interval (average)					
DCP-3	Collocation Feasibility Study Commitments Met (percent)					
DCP-4	Average Collocation Quote Interval (percent)					

APPENDIX E

GLOSSARY/TERMINOLOGY

GLOSSARY/TERMINOLOGY

<u>ACRONYM/TERM</u>	<u>ACRONYM/TERM DESCRIPTION</u>
ACC	Arizona Corporate Commission
ATIS	American Telecommunications Industry Solution
CLEC	Competitive Local Exchange Carrier
CLLI	Common Language Location Identifier
Conversion As-Is	A type of resale order that requires no changes to the customer's account
Conversion As-Specified	A type of resale order that requires one or more changes to the customer's account
CSR	Customer Service Record
DCI	Doherty and Company, Inc.
DOJ	Department of justice
EB-TA	Electronic Bonding-Trouble Administration
EDI	Electronic Data Interchange
EMI	Exchange Message Interface
FCC	Federal Communications Commission
FOC	Firm Order Confirmation
GUI	Graphical User Interface
IMA	Interconnect Mediated Access
LMOS	Loop Maintenance Operation System
LNP	Long Term Number Portability (also referred to as Local Number Portability)
LSR	Local Service Request
MLT	Mechanized Loop Test
OSS	Operations Support Systems
Partial Migrations	A type of resale order that transfer only part of the customer's account to a CLEC
PIC	Primary Interexchange Carrier
PMO	Present Method of Operation
Preordering/Ordering, Provisioning, Maintenance and Repair and Billing	<p>FCC defined categories:</p> <p>Preordering/ordering = the exchange of information between LECs (local exchange carrier) about current or proposed customer products and services or unbundled network elements or some combination thereof</p> <p>Provisioning = the exchange of information between LECs where one executes a request for a set of products and services or unbundled network elements or combination thereof from the other with attendant acknowledgements and status reports</p>

<u>ACRONYM/TERM</u>	<u>ACRONYM/TERM DESCRIPTION</u>
	Maintenance and repair = the exchange of information between LECs where one initiates a request for repair of existing products and services or unbundled network elements or combination thereof from the other with attendant acknowledgements and status reports Billing involves the provision of appropriate usage data by one LEC to another to facilitate customer billing with attendant acknowledgements and status reports
Pseudo-CLEC	A simulator that acts like an actual CLEC
SOC	Service Order Completions
SOC	Service Order Constructor
SOP	Service Order Processor
Suspend and Restore	Types of orders that "cuts off" dial-tone (suspend) and reestablishes dial-tone for a customer
Test Transaction Generator	Hardware and software that generates transactions for the test
UNE	Unbundled Network Element (UNEs are portions of an incumbent local exchange carrier's ubiquitous network)
UNE-C	Unbundled Network Element-Combination (UNE-C is a conversion of the customer's service to the CLEC at the unbundled network element rate)
UNE-Loop (UNE-L)	Unbundled Network Element-Loop (otherwise known as unbundled loop) (UNE-Loop includes the facilities between the end-user customer's network interface device and the meet point between the incumbent local exchange carrier's facilities and those of the CLEC)